

# ADMINISTRATIVE RECORD INDEX

Clean Harbors Services

Chicago

ILD 000 608 471

US EPA RECORDS CENTER REGION 5



1000483

No.	Dated	Received	Description	Sec. No.
101	-	-	Administrative Record Index	1
102			Copy of Nov 3, 1993 Permit	6
103			Part A Application	6
104	2/16/01	2/16/01	Letter with corrected Part A Application	6
105	1/31/00		Application letter for Class 3	2
106	12/15/00	12/18/00	Letter and Attachment 32	2
107	01/18/01	01/18/01	Fax of letter and flow diagram	2
108	01/10/01	01/11/01	Letter of additional information Shredder & Metal Washer	2
109	01/30/01		Letter and Drawings of changes	2
110	2/21/01	2/25/01	Letter to Mike Mikulka	2
111			Public Notice of Draft Permit Draft Fact Sheet Letter to Facility Federal Draft Permit	3
112			Affidavit of Publication Public Notice Fact Sheet List of Interested Parties	4
113			Design Analysis of Air pollution Control system	2
114				"
115	8/27/01		<i>Clean Harbors</i> Letter to <del>Safety-Kleen</del> Systems, Inc	2
116	8/27/01		Dear Sir/Madam Letter	2
117	8/27		Response to Comments	5
118	5/18/01	5/21/01	Clean Harbors Comments and Drawing Modification	5
				2
119	8/27		Final Modified Permit	

## Administrative Record

Document Number	Date Sent	Date Received	Persons/Organization	File Location
102 AM-01			Copy of Nov 4 1993 Permit	6
103 AM-02			PART A Application	6
104 AM-03	2/14/01	FAX 2/16/01	Letter with connection to Part A	6
<del>Am-04</del>	<del>2/14/01</del>	<del>2/20/01</del>	original " "	6
<del>Am-05</del>			Application	5
<del>Am-06</del>			mailing list	5
<del>Am-07</del>			Attachment 32	4
<del>Am-08</del>	1/8/00		Enfun on Class 3	4
<del>Am-09</del>	1/6/00	H/13/00	" "	4
<del>Am-10</del>	12/15/00	12/18/00	Addition Info	4
Am-11	"	"	" FAX copy Flow Drawings	4
Am-12	1/10/01	1/12/01	Lt Use method 21	4
Am-13	1/30/01	2/3/01	Lt & Drawings on process	4
Am-15			Design Analysis	3
Am-16	2/21/01	2/21/01	Lt to Mick Munkler	4
Am-17	3/13/01	3/14/01	Notice of Class 1 Permit mod.	5

ADDITIONAL Folder

Located

ACB1 → In Desk Application / Drawings  
 ACB2 → " " Drawings  
 FF 01 mis Letter

## Administrative Record

[illegible]

ACB = According Binden

## Administrative Record

[illegible]



## Administrative Record

[illegible]

ORC ATTORNEY ASSIGNMENT FORM  
(Revised February 16, 2000)

RESERVED FOR DATA ANALYST'S USE

DOCKET NUMBER.

CASE/MATTER NAME: CLEAN HARBORS SERVICES, INC. PERMIT MODIFICATION

PROGRAM ASSIGNEE: JAMES BLOUGH Phone: 6-2967

FACILITY NAME: CLEAN HARBORS SERVICES, INC.

ADDRESS OR LEGAL DESCRIPTION: 11800 South Stony Island Avenue

CITY: Chicago STATE: Illinois ZIP CODE: 60617 COUNTY: Cook

PRIMARY 4-DIGIT NAICS/SIC CODE: 4953 SECTOR:

OTHER 4-DIGIT NAICS/SIC CODE(s): SECTOR:

PROPOSED RESPONDENTS/PRPs:

ADMINISTRATIVE ENFORCEMENT [ ] JUDICIAL ENFORCEMENT [ ]

BID PROTEST [ ] PROTEST NO.:

GRANT ASSISTANCE DISPUTE [ ] AGREEMENT NO. AUDIT NO.

PERMIT [X] DEFENSIVE CASE [ ] APPEALED TO EAB [ ]  
OTHER COUNSEL MATTER [ ]

LAW/SECT. (STATUTE and SECTION which authorize action, e.g. CAA/113(d), CERCLA/106): RCRA

LAW/SECT. (STATUTE and SECTION violated, or that provides requirement to be enforced, e.g. CAA/112):

POLLUTANTS: Numerous Hazardous Wastes (Please see Permit Application Part A)

Is the matter in geographic initiative area? No Which one?

Is the matter multi-media? No

Is this case a Self Disclosure? No If yes, what is the disclosure date:

If this is a Self Disclosure, was the Audit Policy used? No \*\* Was the Small Business Policy applied? No

COMMENTS:

Facility has submitted a Class 3 Permit Modification Request. Permit Writer pursuing joint permit with state.

ORC ATTORNEY ASSIGNMENT  
(Completed by ORC Section Chief)

DATE RECEIVED: 2/20/01

BRANCH: MMII

SECTION: 4/Lee

ATTORNEY NAME: ANDRE DAUGAVIETIS

PHONE: 886.6663

DATE ASSIGNED: 3.8.01

PLEASE FORWARD COMPLETED FORM VIA LAN TO CHERYL KLEBENOW (886-6771)- C-14J

1470

7000 0520 0020 5136 #281

U.S. Postal Service  
**CERTIFIED MAIL RECEIPT**  
 (Domestic Mail Only; No Insurance Coverage Provided)

**Clean Habbers Service**

Postage	\$ 1.26
Certified Fee	2.50
Return Receipt Fee (Endorsement Required)	1.10
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$ 4.86

Recipient's Name (Please Print Clearly) (To be completed by mailer)  
**James Habbers**

Street, Apt. No. or PO Box No.

**11800 South Stony Island Ave**

City, State, ZIP+4

**Chicago IL 60617**

See Reverse for Instructions

PS Form 3800, February 2000



## **Certified Mail Provides:**

- A mailing receipt
- A unique identifier for your mailpiece
- A signature upon delivery
- A record of delivery kept by the Postal Service for two years

## **Important Reminders:**

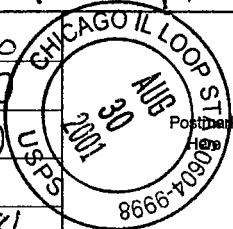
- Certified Mail may **ONLY** be combined with First-Class Mail or Priority Mail.
- Certified Mail is not available for any class of international mail.
- **NO INSURANCE COVERAGE IS PROVIDED** with Certified Mail. For valuables, please consider Insured or Registered Mail.
- For an additional fee, a Return Receipt may be requested to provide proof of delivery. To obtain Return Receipt service, please complete and attach a Return Receipt (PS Form 3811) to the article and add applicable postage to cover the fee. Endorse mailpiece "Return Receipt Requested". To receive a fee waiver for a duplicate return receipt, a USPS postmark on your Certified Mail receipt is required.
- For an additional fee, delivery may be restricted to the addressee or addressee's authorized agent. Advise the clerk or mark the mailpiece with the endorsement "Restricted Delivery".
- If a postmark on the Certified Mail receipt is desired, please present the article at the post office for postmarking. If a postmark on the Certified Mail receipt is not needed, detach and affix label with postage and mail.

**IMPORTANT: Save this receipt and present it when making an inquiry.**

U.S. Postal Service  
**CERTIFIED MAIL RECEIPT**

(Domestic Mail Only; No Insurance Coverage Provided)

Illinois International Post District

Postage	\$ 1.26	
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Restricted Delivery Fee (Endorsement Required)		
Total Postage & Fees	\$ 4.86	

Recipient's Name (Please Print Clearly) (To be completed by mailer)

Anthony TANELLO

Street, Apt. No., or PO Box No.

2600 East 95th Street

City, State, ZIP+4

Chicago, IL 60617

## **Certified Mail Provides:**

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## ***Important Reminders:***

- Certified Mail may **ONLY** be combined with First-Class Mail or Priority Mail.
- Certified Mail is not available for any class of international mail.
- **NO INSURANCE COVERAGE IS PROVIDED** with Certified Mail. For valuables, please consider Insured or Registered Mail.
- For an additional fee, a Return Receipt may be requested to provide proof of delivery. To obtain Return Receipt service, please complete and attach a Return Receipt (PS Form 3811) to the article and add applicable postage to cover the fee. Endorse mailpiece "Return Receipt Requested". To receive a fee waiver for a duplicate return receipt, a USPS postmark on your Certified Mail receipt is required.
- For an additional fee, delivery may be restricted to the addressee or addressee's authorized agent. Advise the clerk or mark the mailpiece with the endorsement "Restricted Delivery".
- If a postmark on the Certified Mail receipt is desired, please present the article at the post office for postmarking. If a postmark on the Certified Mail receipt is not needed, detach and affix label with postage and mail.

**IMPORTANT: Save this receipt and present it when making an inquiry.**

UNITED STATES POSTAL SERVICE

OFFICIAL BUSINESS



**SENDER INSTRUCTIONS**

Print your name, address and ZIP Code in the space below.

- Complete items 1, 2, 3, and 4 on the reverse.
- Attach to front of article if space permits, otherwise affix to back of article.
- Endorse article "Return Receipt Requested" adjacent to number.



PENALTY FOR PRIVATE  
USE, \$300

RETURN  
TO



Print Sender's name, address, and ZIP Code in the space below.

US EPA

Region V Jim Blough DW-8J

77 West Jackson

Chicago Ill 60640

● **SENDER:** Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.

Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1. ☐ Show to whom delivered, date, and addressee's address.      2. ☐ Restricted Delivery  
(Extra charge) (Extra charge)

3. Article Addressed to:

Clean Harbors Services Inc  
Mr James Laubsted  
11800 Stony Island Ave  
Chicago Ill  
60617

4. Article Number

7000 052000205136211

Type of Service:

- ☐ Registered      ☐ Insured  
☒ Certified      ☐ COD  
☐ Express Mail      ☐ Return Receipt  
for Merchandise

Always obtain signature of addressee  
or agent and DATE DELIVERED.

5. Signature — Addressee

X *James Laubsted*

6. Signature — Agent

X

7. Date of Delivery

8-31-01

8. Addressee's Address (ONLY if  
requested and fee paid)



## **RCRA Final Permit Sign-off**

## Background

Facility Name (Owner)..... Illinois International Port District.  
(Operator)... Clean Harbors Services, Inc  
Facility Location..... 11800 South Stony Island  
Chicago IL 60617  
Facility ID Number..... ILD 000 608 471  
Public Comment Period..... 4/5/01 - 5/21/01

### Type of Permit

☐ Operating      ☐ Treatment      ☐ Disposal      **Modifications:**  
☐ Post-Closure      ☐ Storage      ☐ Subpart X      ☐ **Class 2**      ☒ **EPA Initiated**  
☐ BIF      ☐ Incineration      ☐ Other      ☒ **Class 3**

## Review Package Content

☒ Final Permit w/attachments  
☒ Final Cover Letter  
 Other ( )

☒ Response to Comments  
☐ Public Comment Cover Letter

☐ Administrative Record Index  
☐ Administrative Record

### **Applicable Permit Conditions**

X Land Disposal Restrictions      Other ( Misc. Units )  
X Air Emissions  
   CMI Imposed

## Concurrences

		Initials	Date
1. Permit Writer (Name): <u>Jim Blough</u> Phone Number: <u>6-2967</u>		<u>JB</u>	<u>6-27/01</u>
2. Section Secretary		<u>LB</u>	<u>7/18/01</u>
3. Technical Expert		<u>JEH</u>	<u>7/18/01</u>
4. Section Chief		<u>HPC</u>	<u>7/19/01</u>
<del>5. WMB Secretary (log and return to permit writer)</del>		<del><u>[Signature]</u></del>	<del><u>[Date]</u></del>
<del>6. IMS (in PMB) [Sign-off only if public-noticing will be done by the U.S. EPA. Cross out if not applicable.]</del>			
7. ORC - Assistant Regional Counsel (Name): <u>Andrea Dousounetis 66663</u> - Permit Coordinator (Name): <u>Thomas C. Nash</u> - Chief (Name): <u>Jandra Lee</u>		<u>AD</u> <u>TCN</u> <u>JML</u>	<u>7/31/01</u> <u>8/4/01</u> <u>8-14-01</u>
<del>8. WMB Secretary</del> <u>Joan, for Proofing 8/16/01</u> <u>needs corrections 8/17/01</u> <u>CH - 8/26/01</u>		<u>JML</u>	<u>8/22/01</u>
9. WMB Chief		<u>ESB</u>	<u>8/23/01</u>
10. Division Director, WPTD		<u>RS</u>	<u>8/27/01</u>
<del>11. WMB Secretary</del>			





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5

77 WEST JACKSON BOULEVARD

CHICAGO, IL 60604-3590

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REPLY TO THE ATTENTION OF:

REGION 5

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) PERMIT

Facility Name and Location : Clean Harbors Services, Incorporated  
11800 South Stony Island Avenue  
Chicago, Illinois 60617  
Owner(s) : Illinois International Port District  
Operator(s) : Clean Harbors Services, Incorporated

U.S. EPA Identification Number: ILD 000 608 471

Effective Date: August 27, 2001

Expiration Date: November 4, 2003

Authorized Activities:

Pursuant to the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA) of 1976, and the Hazardous and Solid Waste Amendments (HSWA) of 1984, (42 U.S.C. § 6901, et seq.), and regulations promulgated thereunder by the United States Environmental Protection Agency (U.S. EPA) (codified in Title 40 of the Code of Federal Regulations (40 CFR)), **modifications to the Federal portion of the RCRA permit** are issued to Clean Harbors Services, Incorporated, operator, and Illinois International Port District, owner, (hereinafter called the Permittees), for the facility located at 11800 South Stony Island Ave., Chicago, Illinois.

Permit Approval

The Permittees must comply with all terms and conditions of the Federal portion of the RCRA permit. The Federal portion of the RCRA permit contains both the effective Federal permit conditions that became effective on November 4, 1993 and the permit conditions contained in this modification, as well as any previous modifications to the Federal portion of the RCRA permit.

This permit modification is based on the assumption that the information submitted in support of the permit modification is accurate. Any inaccuracies found in this information may be grounds for the termination, revocation and reissuance, or further modification of this permit (see 40 CFR §§ 270.41, 270.42, and 270.43) and potential enforcement action. The Permittees must inform the U.S. EPA of any deviation from or changes in the information submitted in support of the modification as soon as the Permittees become aware of such deviation or changes.

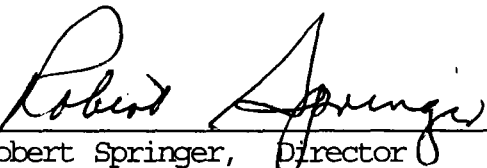
Opportunity to Appeal:

Petitions for review must be submitted within 30 days after service of notice of the final permit modification decision. Any person who filed comments on the draft permit modification, or participated in the public hearing may petition the Environmental Appeals Board to review any condition of the permit modification decision. Any person who failed to file comments or failed to participate in the public hearing on the draft permit modification may petition for administrative review only to the extent of the changes from the draft permit modification to the final permit modification decision. The procedures for permit appeals are found in 40 CFR § 124.19.

Effective Date:

This permit is effective as of August 27, 2001, unless a review is requested under 40 CFR § 124.19, and shall remain in effect until November 4, 2003, unless revoked and reissued, or terminated (40 CFR §§ 270.41, 270.42 and 270.43), or continued in accordance with 40 CFR § 270.51.

BY: \_\_\_\_\_

  
Robert Springer, Director  
Waste, Pesticides and Toxics Division

DATE: \_\_\_\_\_

8/27/01

Clean Harbors Services, Incorporated and  
Illinois International Port District  
Chicago, Illinois

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**PERMIT CONDITIONS**

(Note: The regulatory citations in parentheses are incorporated by reference.)

**I. STANDARD CONDITIONS****A. EFFECT OF PERMIT (40 CFR 270.4 and 270.30(g))**

The Permittees are allowed to manage hazardous waste in accordance with the conditions of the RCRA permit. Any management of hazardous waste not authorized in the RCRA permit is prohibited.

Compliance with the RCRA permit during its term constitutes compliance, for the purposes of enforcement, with Subtitle C of RCRA, except for those requirements not included in the permit which become effective by statute, or which are promulgated under 40 CFR Part 268, restricting the placement of hazardous waste in or on the land. Issuance of this permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of State or local law or regulations. Compliance with the terms of this permit does not constitute a defense to any order issued or any action brought under Sections 3008(a), 3008(h), 3013, or 7003 of RCRA; Sections 104, 106(a), or 107 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (42 U.S.C. §9601 et seq., commonly known as CERCLA); or any other law providing for protection of public health or the environment.

**B. PERMIT ACTIONS (40 CFR 270.30(f))**

This permit may be modified, revoked and reissued, or terminated for cause as specified in 40 CFR 270.41, 270.42, and 270.43. This permit may also be reviewed and modified by the U.S. EPA, consistent with 40 CFR 270.41, to include any terms and conditions determined necessary to protect human health and the environment pursuant to Section 3005(c)(3) of RCRA. The filing of a request for a permit modification, revocation and reissuance, or termination, or the notification of planned changes, or anticipated noncompliance on the part of the Permittees does not stay the applicability or enforceability of any permit condition. The Permittees shall not perform any construction associated with a Class 3 permit modification request until such modification request is approved and the permit modification becomes effective.

C. SEVERABILITY (40 CFR 124.16)

The provisions of this permit are severable, and if any provision of this permit, or if the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

D. DUTIES AND REQUIREMENTS

1. Duty to Comply. (40 CFR 270.30(a))

The Permittees shall comply with all conditions of this permit, except to the extent and for the duration such noncompliance is authorized by an emergency permit (See 40 CFR 270.61). Any permit noncompliance, other than noncompliance authorized by an emergency permit, constitutes a violation of RCRA and HSWA and is grounds for enforcement action, permit termination, revocation and reissuance, modification, denial of a permit renewal application, or other appropriate action.

2. Duty to Reapply. (40 CFR 270.30(b) and 40 CFR 270.10(h))

The Permittees shall submit a complete application for a new permit at least 180 days before this permit expires unless: a) the Permittees no longer wish to operate a hazardous waste management facility; b) the Permittees are no longer required to have a RCRA permit; or c) permission for a later date has been granted by the Regional Administrator. The Regional Administrator shall not grant permission for applications to be submitted later than the expiration date of the existing permit.

3. Permit Expiration. (40 CFR 270.13, 270.14, 270.50, and 270.51)

This permit and all conditions herein shall be effective for a fixed term not to exceed 10 years, and will remain in effect beyond the permit's expiration date only if the Permittees have submitted a timely, complete application (per 40 CFR 270.10 and applicable sections of 270.14 through 270.29): a) to both the U.S. EPA and the State; and b) through no fault of the Permittees, the Regional Administrator and the State have not issued a new permit, as set forth in 40 CFR 270.51.

4. Need to Halt or Reduce Activity Not a Defense. (40 CFR 270.30(c))

It shall not be a defense for the Permittees in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

5. Duty to Mitigate. (40 CFR 270.30(d))

In the event of releases or noncompliance with the permit, the Permittees shall take all reasonable steps to minimize releases to the environment and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health and the environment.

6. Proper Operation and Maintenance. (40 CFR 270.30(e))

The Permittees shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittees to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality control/quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

7. Duty to Provide Information. (40 CFR 270.30(h) and 264.74)

The Permittees shall furnish to the Regional Administrator, within the time designated by the Regional Administrator, any relevant information which the Regional Administrator may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The Permittees shall also furnish to the Regional Administrator, upon request, copies of records required to be kept by this permit.

8. Inspection and Entry. (40 CFR 270.30(i))

The Permittees shall allow the Regional Administrator, or an authorized representative, upon the presentation of credentials and other documents as may be required by law to:



- a. Enter at reasonable times upon the Permittees' premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
  - b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
  - c. Inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
  - d. Sample or monitor, at reasonable times, for the purposes of assuring permit compliance, or as otherwise authorized by RCRA, any substances or parameters at any location.
9. Monitoring and Recordkeeping. (40 CFR 270.30(j), 270.31, 264.73, and 264.74)

The Permittees shall retain all reports, records, or other documents, required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the reports, records or other documents. These periods may be extended by request of the Regional Administrator at any time and are automatically extended during the course of any unresolved enforcement action regarding this facility.

10. Reporting Planned Changes. (40 CFR 270.30(1)(1))

The Permittees shall give notice to the Regional Administrator of any planned physical alterations or additions to the permitted facility, as soon as possible, and at least 30 days before construction of such alteration or addition is commenced.

11. Anticipated Noncompliance. (40 CFR 270.30(1)(2))

The Permittees shall give advance notice to the Regional Administrator of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. Such notice does not constitute a waiver of the Permittees' duty to comply with permit requirements.

12. Transfer of Permits. (40 CFR 270.30(l)(3), 270.40(a), and 264.12(c))

This permit may be transferred by the Permittees to a new owner or operator only after providing notice to the Regional Administrator and only if the permit is modified, or revoked and reissued, pursuant to 40 CFR 270.40(b), 270.41(b)(2), or 270.42(a). Before transferring ownership or operation of the facility during its operating life, the Permittees shall notify the new owner or operator in writing of the requirements of 40 CFR Parts 264, 268, and 270 (including all applicable corrective action requirements), and shall provide a copy of the RCRA permit to the new owner or operator.

13. Compliance Schedules. (40 CFR 270.30(l)(5) and 270.33)

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted to the Regional Administrator no later than 14 days following each scheduled date.

14. Twenty-four Hour Reporting. (40 CFR 270.30(l)(6) and 270.33)

The Permittees shall report to the Regional Administrator any noncompliance with this permit which may endanger human health or the environment. Any such information shall be reported orally within 24 hours from the time the Permittees become aware of the circumstances. This report shall include the following:

- a. Information concerning the release of any hazardous waste which may endanger public drinking water supplies; and
- b. Information concerning the release or discharge of any hazardous waste, or of a fire or explosion at the facility, which could threaten the environment or human health outside the facility. The description of the occurrence and its cause shall include:
  - (1) Name, address, and telephone number of the owner or operator;
  - (2) Name, address, and telephone number of the facility;
  - (3) Date, time, and type of incident;

- (4) Name and quantity of material(s) involved;
- (5) The extent of injuries, if any;
- (6) An assessment of actual or potential hazard to the environment and human health outside the facility, where this is applicable; and
- (7) Estimated quantity and disposition of recovered material that resulted from the incident.

A written submission shall also be provided within 5 days of the time the Permittees become aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period(s) of noncompliance (including exact dates and times); steps taken to minimize impact on the environment; whether the noncompliance has been corrected, and if not, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate and prevent recurrence of the noncompliance. The Permittees need not comply with the 5-day written notice requirement if the Regional Administrator waives the requirement. Upon waiver of the 5-day requirement, the Permittees shall submit a written report within 15 days of the time the Permittees become aware of the circumstances.

15. Other Noncompliance. (40 CFR 270.30(l)(10))

The Permittees shall report all other instances of noncompliance not otherwise required to be reported above within 15 days of when the Permittees become aware of the noncompliance. The reports shall contain the information listed in Condition I.D.14.

16. Other Information. (40 CFR 270.30(l)(11))

Whenever the Permittees become aware that they failed to submit any relevant facts, or submitted incorrect information to the Regional Administrator in the permit application or in any reports, records, or other documentation provided to the Regional Administrator, the Permittees shall promptly submit such facts or information.

17. Submittal of Reports or Other Information. (40 CFR 270.30(l)(7), (8), and (9), and 270.31)

All reports or other information required to be submitted pursuant to this permit shall be sent to:

Waste Management Branch, DW-8J  
U.S. EPA, Region 5  
77 West Jackson Boulevard  
Chicago, Illinois 60604-3590

Attention: Technical Support & Permits Section

18. All other requirements contained in RCRA, as amended, and in 40 CFR 270.30 not set forth herein are hereby fully incorporated in this permit.

E. SIGNATORY REQUIREMENT (40 CFR 270.30(k))

All reports or other information submitted to or requested by the Regional Administrator, his designee, or authorized representative, shall be signed and certified as required by 40 CFR 270.11.

F. CONFIDENTIAL INFORMATION

In accordance with 40 CFR 270.12 and 40 CFR Part 2, Subpart B, any information submitted to the U.S. EPA pursuant to this permit may be claimed as confidential by the submitter. Any such claim must be asserted at the time of submission in the manner prescribed on the application form or instructions, or, in the case of other submissions, by marking the words "Confidential Business Information" on each page containing such information.

If no claim is made at time of submission, the U.S. EPA may make the information available to the public without further notice. If a claim is asserted, the information will be treated in accordance with the procedures in 40 CFR Part 2.

G. DOCUMENTS TO BE MAINTAINED AT THE FACILITY

The Permittees shall maintain at the facility, until closure is completed and certified by an independent registered professional engineer, all items required by 40 CFR 264.73, including the following documents and all amendments, revisions, and modifications to these documents:

1. Waste Analysis Plan, as required by 40 CFR 264.13 and this permit;
2. Operating Record, as required by 40 CFR 264.73 and this permit;

3. Notifications from generators accompanying each incoming shipment of wastes subject to 40 CFR Part 268, Subpart C, that specify treatment standards, as required by 40 CFR 264.73, 268.7, and this permit; and
4. Records regarding closed-vent systems and control devices and/or equipment leaks as required by 40 CFR 264.1035, 264.1064, and 264.73, and Condition III.G. of this permit.

## II. LAND DISPOSAL REQUIREMENTS

### A. GENERAL CONDITIONS

1. The Permittees shall comply with all the applicable self-implementing requirements of 40 CFR Part 268 and all applicable land disposal requirements which become effective by statute (Section 3004 of RCRA).
2. A mixture of any restricted waste with nonrestricted waste(s) is a restricted waste under 40 CFR Part 268.
3. The Permittees shall not in any way dilute a restricted waste or the residual from treatment of a restricted waste as a substitute for adequate treatment to achieve compliance with 40 CFR Part 268, Subpart D, to circumvent the effective date of a prohibition in 40 CFR Part 268, Subpart C, to otherwise avoid a prohibition in 40 CFR Part 268, Subpart C, or to circumvent a land disposal prohibition imposed by Section 3004 of RCRA.
4. The Permittees shall prepare and maintain a current list of the hazardous waste codes handled by the facility that are identified in 40 CFR 268, Subparts B and C. The list shall include all waste codes handled by the facility, and any associated treatment standards, and shall be updated through the inclusion of new treatment standards, as promulgated or amended. This list shall be provided to the U.S. EPA representatives, or their designees, upon request.
5. The Permittees shall not dilute metal-bearing wastes (listed in Appendix XI of 40 CFR Part 268) during the fuel blending operations, unless you demonstrate that the waste complies with one or more of the criteria specified in 40 CFR § 268.3(c).

B. TESTING AND RELATED REQUIREMENTS

1. The Permittees must test, in accordance with 40 CFR 268.7(a), any waste generated at the facility, or use knowledge of the waste, to determine if the waste is restricted from land disposal.
2. For restricted wastes with treatment standards expressed as concentrations in the waste extract, as specified in 40 CFR 268.41, the Permittees shall test the wastes or waste residues, or extracts of such residues developed using the test methods described in Appendix II of 40 CFR Part 261 (Toxicity Characteristic Leaching Procedure, or TCLP) to assure that the wastes or waste treatment residues or extracts meet the applicable treatment standards of 40 CFR Part 268, Subpart D. Such testing shall be performed as required by 40 CFR 264.13.
3. A restricted waste for which a treatment technology is specified under 40 CFR 268.42(a) may be land disposed after it is treated using that specified technology or an equivalent treatment method approved by the Administrator under the procedures set forth in 40 CFR 268.42(b).
4. For restricted wastes with treatment standards expressed as concentrations in the waste, as specified in 40 CFR 268.43, the Permittees shall test the wastes or treatment residues (not extract of such residues) to assure that the wastes or waste treatment residues meet the applicable treatment standards of 40 CFR Part 268, Subpart D. Such testing shall be performed as required by 40 CFR 264.13.
5. The Permittees shall comply with all the applicable notification, certification, and recordkeeping requirements described in 40 CFR 268.7(a) and (b).

C. STORAGE PROHIBITIONS

1. The Permittees shall comply with all the applicable prohibitions on storage of restricted wastes specified in 40 CFR Part 268, Subpart E.
2. Except as otherwise provided in 40 CFR 268.50, the Permittees may store restricted wastes in tanks and containers solely for the purpose of the accumulation of such quantities of hazardous wastes as necessary to facilitate proper recovery, treatment, or disposal provided that:
  - a. Each container is clearly marked to identify its contents and the date each period of accumulation begins; and

- b. Each tank is clearly marked with a description of its contents, the quantity of each hazardous waste received, and the date each period of accumulation begins, or such information for each tank is recorded and maintained in the operating record at that facility.
3. The Permittees may store restricted wastes for up to 1 year unless the U.S. EPA or its authorized agent can demonstrate that such storage was not solely for the purpose of accumulating such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment or disposal.
4. The Permittees may store restricted wastes beyond 1 year; however, the Permittees bear the burden of proving that such storage was solely for the purpose of accumulating such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment or disposal.
5. The Permittees shall not store any liquid hazardous waste containing polychlorinated biphenyls (PCBs) at concentrations greater than or equal to 50 ppm unless the waste is stored in a storage facility that meets the requirements of 40 CFR 761.65(b). This waste must be removed from storage and treated or disposed as required by 40 CFR Part 268 within 1 year of the date when such wastes are first put into storage. Condition II.C.4. above, that allows storage for over 1 year with specified demonstration, does not apply to PCB wastes prohibited under 40 CFR 268.32.

### III. AIR EMISSION STANDARDS (40 CFR Part 264, Subpart CC)

#### A. WASTE DETERMINATION

Waste determination procedures for: (1) average volatile organic (VO) concentration of a hazardous waste at the point of origination, (2) treated hazardous waste, and (3) the maximum organic vapor pressure of a hazardous waste in tanks; shall be in accordance with 40 CFR § 264.1083.

The waste determination may be waived if all hazardous wastes are treated as if they contain an average volatile organic concentration of 500 parts per million and greater by weight (ppmw) and the Subpart CC rule applies to all containers and tanks, except those exempted under 40 CFR § 264.1080.

#### B. GENERAL STANDARDS FOR TANKS AND CONTAINERS

The Permittees shall comply with all applicable requirements of Title 40 CFR Part 264, Subpart CC, regarding air emission standards for tanks and containers.

Under this permit, you must demonstrate, by direct measurement or approved method, that for each tank or container you claim to be exempt under Subpart CC, the average VO concentration for hazardous waste, determined in accordance with 40 CFR §§ 264.1083(a) and 265.1084(a) (2) and (3), is less than 500 ppmw. For each tank or container, you must review and update this determination in accordance with 40 CFR § 264.1082(c) (1) at least once every 12 months following the date of the initial determination. For each tank or container, you must prepare and maintain the records described in 40 CFR § 264.1089(f). These records must be maintained as part of the operating record.

C. ROLL-OFF CONTAINERS STORAGE AREA

1. The Permittees shall equip the roll-off container with a cover and a closure device to form a continuous barrier over the container openings. The cover must remain closed and secure at all times except when adding and removing waste or other materials.
2. The Permittees shall implement an organic capturing system from:  
(1) the metal wash system, (2) sludge collection drum area, and  
(3) all material conveying systems.
3. The collected air stream shall be directed to a carbon adsorption system, designed to capture organic emissions in accordance with 40 CFR § 264.1033. The system shall be designed and constructed based on good engineering practices. The efficiency of the new system shall be tested in accordance with 40 CFR § 264.1032.

D. VENTILATION AND METAL CLEANING SUPPLEMENTAL ENVIRONMENTAL PROJECT

1. The Permittees shall design, construct, test, and place into operation a revised processing system. The conceptual design description referenced in attachment 32, entitled "Design Analysis of Air Pollution Control System Chicago Facility Flammable Tank Farm & Metal Wash System, and Fuel Blending/Shredding Tower System" (hereinafter referred to as the "Project"), shall be used as the basis of design.
2. The Project shall include, but not be limited to: (1) tandem drum shredders and magnetic separators, (2) enclosed conveyors and transfer chutes, (3) solid lugger bin and enclosure,  
(4) ventilation ductwork and (5) instrumentation and control.



3. The organic concentration in the transport ductwork shall not exceed 50% of the Lower Explosion Limit (LEL) based on the concentration of the organic constituents in the air stream. Provisions shall be incorporated into the design and maintained in accordance with the procedures recommended by the suppliers.

E. DRUM ELEVATOR AND SHREDDER

1. The drum package unit, the dual shredders with hydraulic ram, and rotary magnetic separator unit shall be totally enclosed and shall be maintained at a slightly negative pressure, except when they are down for service.
2. The conveyor/drum lift outside the building shall at have a steel pan below the unit and shall comply with the requirements as stipulated in 40 CFR § 264.175, § 264.193, § 264.195, and § 264.196.
3. Inert gas shall be supplied to the enclosure to maintain an oxygen deficient environment inside the enclosure to eliminate explosion potential.
4. Temperature and pressure shall be continuously monitored and recorded. The fire/explosion suppression system shall be installed to prevent any fire/explosion hazards resulting from shredding of metal drums.
5. If the Permittees propose changes to the Project to improve the air emission control design, the changes must be approved by the EPA Region 5 Regional Administrator. The Permittees must follow the permit modification procedures found in 40 CFR § 270.42.

F. HYDRAPULPER AND VIBRATORY SCREEN

1. The emission control from hydrapulper and the vibratory screen shall include a vent from the hydrapulper and a vent over the vibratory screen.
2. The closed vents system shall be connected to a blower for discharging the contaminated air into the Carbon Absorption System.

G. CLOSED VENT SYSTEM AND CONTROL DEVICES (Carbon Absorption)

1. The closed vent systems and control devices shall comply with the requirements in 40 CFR § 264.1087. A closed vent system shall meet the requirements of 40 CFR § 264.1033(k).
2. The Carbon Absorption System shall have a minimum availability of 95%, including downtime for routine maintenance.
3. The Carbon Absorption System shall have a minimum destruction and removal efficiency of 95%, in accordance with 40 CFR § 264.1033(c).

4. The two-bed Carbon Absorption System shall be monitored each day by a flame ionization detector to demonstrate that the units are operating in accordance with procedures referenced in Method 21 (40 CFR Part 60).
5. After the Carbon Absorption System beds are spent, the beds shall be shipped, as a hazardous waste, to a RCRA permitted facility or sent to an approved facility for regeneration. All carbon removed from the control devices shall be disposed in accordance with 40 CFR § 264.1033.
6. The closed vent system shall not include any bypass devices that could be used to divert the gas or vapor stream to the atmosphere before entering the control device.
7. A flow-indicating sensor shall be installed in each closed-vent system and monitored once each hour to record and verify that the negative pressure is being maintained in each closed vent during operation.

H. REMOVAL AND DISPOSAL OF THE DISCARDED EQUIPMENT AND APPURTENANCES

The Permittees shall submit to the Regional Administrator for approval, a plan, consisting of decontamination, removal, and final disposition of all equipment and appurtenances in conjunction with implementation of the Project.

I. DESIGN CHANGES TO THE PROJECT

If the Permittees propose changes to the Project to improve the air emission control design, Conditions III. D, E, and F may be modified with the approval of the Regional Administrator or his or her delegate. The Permittees must follow the permit modification procedures found in 40 CFR § 270.42.

J. RECORDKEEPING AND REPORTING

The Permittees shall comply with all applicable recordkeeping and reporting requirements described in 40 CFR § 264.1089 and § 264.1090.

K. NOTIFICATION OF REGULATED ACTIVITY

The Permittees shall notify the Regional Administrator of any waste management units which become subject to the requirements of 40 CFR Part 264, Subpart CC, within 30 days of startup of the regulated activity.

L. DUTY TO COMPLY WITH FUTURE REQUIREMENTS

The Permittees shall comply with all self-implementing provisions of any future air regulations promulgated under the provisions of Section 3004(n) of RCRA, as amended by HSWA.

IV. OTHER FEDERAL RCRA REQUIREMENTS

1. The Permittees shall comply with any new requirements of 40 CFR Subparts AA and BB regarding air emission standards for process vents and equipment leaks which the State of Illinois has not been authorized to administer.
2. In addition to the waste codes listed in the State-issued portion of the RCRA permit, the Permittees may handle at your facility newly listed hazardous wastes promulgated under the HSWA. All handling of these waste codes must comply with the applicable provisions of both the State-issued portion and the Federally-issued portion of the RCRA permit.

Final Permit  
Clean Harbord ILD 000 608 471  
Chicago, IL  
Jim Blough July 5, 2001

C:\clean harbor\final permit info\final permit 7-5-01 correction

WASTE MANAGEMENT BRANCH *Jim 8/20/01*

SECRETARY	SECRETARY	SECRETARY	SECRETARY	SECRETARY	SECRETARY
<i>B 7/14/01</i>					
TYPYST/ AUTHOR	CORRECTIVE ACTION SECTION CHIEF	TECH. SUPPO RT&PERMITS SECTION CHIEF	POL. PREV. & SPEC. INTIV SEC. CHIEF	WMB BRANCH CHIEF	WPTD DIVISION DIRECTOR
<i>B</i>		<i>APC 8/22/01</i>		<i>APC for KES 8/22/01</i>	<i>RS 8/27/01</i>

Summary of Permit

DW-8J

RE: Clean Harbors Serves, Incorporated.  
Chicago, Illinois 60617  
ILD 000 608 471

The modification modified conditions in the existing Federal portion of Clean Harbors Serves, Incorporated (CHSI) permit. This modification allows CHSI to construct a drum shredder system with a hydropulper. The U.S. EPA portion of the permit deals with the Subpart X unit and the Subpart CC controls that are to be installed to ensure the protection of human health and the environment.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590

AUG 27 2001

REPLY TO THE ATTENTION OF:

DW-8J

RE: Clean Harbors Services, Inc. and  
Illinois International Port District  
Chicago, Illinois 60617  
ILD 000 608 471

Dear Sir/Madam:

On August 27, 2001, the United States Environmental Protection Agency (U.S. EPA), Region 5, issued the modified Federal portion of a Resource Conservation and Recovery Act (RCRA) Hazardous Waste Permit for the above-referenced facility. The modified RCRA permit will allow Clean Harbors Services, Inc. and Illinois International Port District to install new equipment and improve its operations, thereby ensuring protection to human health and the environment.

This letter supplements the enclosed Response to Comments generated as a result of the public comment period held for the draft permit. This Response to Comments was prepared by the U.S. EPA and sent to interested parties.

I have made the final decision to issue the modified Federal portion of the RCRA Hazardous Waste Permit for this facility located in Chicago, Illinois. Unless review is requested under Title 40 of the Code of Federal Regulations (40 CFR) § 124.19, the Federal portion of this modified RCRA permit becomes effective on August 27, 2001.

Eligibility to appeal this permit is discussed further in 40 CFR § 124.19. The administrative appeal procedures must be completed prior to any action seeking judicial review. The original and one copy of the petition must be received by the U.S. EPA in Washington, D.C., at the address indicated below within 33 days of the date of this letter.

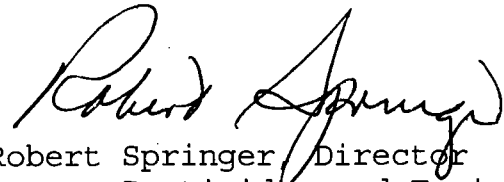
United States Environmental Protection Agency  
Environmental Appeals Board  
Ariel Rios Building  
1200 Pennsylvania Avenue, N.W.  
Washington, D.C. 20460

A copy of the petition should also be sent to:

Waste Management Branch (DW-8J)  
U.S. EPA Region 5  
77 West Jackson Boulevard  
Chicago, Illinois 60604

On behalf of the U.S. EPA, I wish to thank you for your interest in the modified permit conditions for Clean Harbors Services, Inc. in Chicago, Illinois.

Sincerely,

A handwritten signature in cursive script, appearing to read "Robert Springer".

Robert Springer, Director  
Waste, Pesticides and Toxics Division

Enclosure

Clean Harbors Services, Inc. - Chicago  
 ILD 000 608 471 Sir/Madam Letter  
 Jim Blough July 5, 2001  
 File: Clean Harbors Chicago-DSM

WASTE MANAGEMENT BRANCH *8/22/01*

SECRETARY	SECRETARY	SECRETARY	SECRETARY	SECRETARY	SECRETARY
<i>B 7/1/01</i>					
TYPIST/ AUTHOR	STP SECTION CHIEF	CA SECTION CHIEF	POL.PREV.&S PEC.INTIV SEC. CHIEF	WMB BRANCH CHIEF	WPTD DIVISION DIRECTOR
<i>JS</i>	<i>HPC</i>			<i>8/22/01</i>	<i>RS 8/27/01</i>



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## **1. BACKGROUND**

Clean Harbors of Chicago Inc. (CHCI), at their Chicago facility, proposes to operate a Shredding process/fuels blending; a tank farm that stores the blended fuels as well as other flammable wastes and a metal wash system. Two independently operated Air Pollution Control Devices (APCD) will be provided for the operation. One APCD system will support shredding tower and fuel blending operation while the second APCD system will support the tank farm and the metal wash system.

As required by RCRA Air Standards, subpart cc, following engineering analysis provides the detailed tabulation and calculations for the APCD design verification as considered for several chemicals that, within permits, may be processed through these units.

## **2. APCD OPERATION**

Primarily, both APCD contain two, properly sized, Granular Activated Carbon (GAC) beds, connected and used in series. Emissions from the storage tank farm is by natural displacement due to thermal as well as working losses, and that from the shredding tower system and metal wash system is forced/induced flow drawn by fans. The tank farm emissions are regulated by tank mounted conservation vents.

Each APCD system will be monitored as required by the permits. At any time, when monitoring indicates saturation of the lead carbon bed via established and approved test criteria, that bed is removed, the second bed is used in place of the lead bed and a new GAC bed is placed as a second bed. The spent carbon is sent out for its off-site regeneration.

## **3. LIST OF ORGANIC COMPOUNDS**

For the purpose developing a comprehensive list of chemical compounds managed through the processes and their expected maximum concentrations, Clean Harbors performed a review of analytical data available from fuels blending operations at the Clean Harbors facilities in Baltimore, Maryland; Braintree, Massachusetts; Chicago, Illinois; and Cincinnati, Ohio. Based on this review and the review of OSHA regulated substances, CHI identified a total of 328 compounds that could potentially be present in the materials to be managed within the tank farm and the shredding operations. These compounds have been identified in Table 1 and Table 2 along with their expected maximum concentrations and the maximum operating temperature.

Table 1 contains compounds with potential maximum concentration (by weight) of 75% and 10%, while Table 2 contains those compounds expected to be present in levels of 1% and less than 1%.

These maximum concentrations are based on the conservative estimates from experience at the four (4) previously mentioned Clean Harbors facilities. The estimates of the maximum concentrations were derived as follows:

1. A list of potential compounds was accumulated from three sources:
  - List of OSHA regulated substances (29 CFR 1910, subpart Z)
  - The analytical survey of existing fuel blending operations at the Clean Harbors facilities in Baltimore, MD; Braintree, MA; and Cincinnati, OH.
  - And, the June 30, 1993 permit application for proposed storage tanks for fuels blending operation at Baltimore facility. This list was generated from the listed chemical constituents present in the EPA waste codes permitted for the fuels blending operation.
2. The compounds from each source in item 1 were combined into one (1) list.
3. Where analytical data from the Baltimore, Braintree and Cincinnati facilities was available for the identified compounds, the average concentration of each compound was calculated and, as a conservative measure, was doubled for this analysis. If the doubled average concentration was greater than the compound's concentration at any of the surveyed facilities, the doubled average concentration for that compound was selected as the basis for maximum expected concentration. If the doubled average was less than the highest concentration at any of surveyed facilities, the highest concentration was selected. This value then served as the basis for determining the maximum expected concentration for that compound.
4. Compounds, that were not identified through the analytical survey of the three (3) Clean Harbor facilities, were reviewed for their frequency of use in the industries that commonly generate waste fuel streams: paints and coating, petroleum and petrochemical, chemical manufacturing and others. Based on the prevalence of use, the compounds not included in the survey were assigned a likely maximum expected concentration.
5. Compounds that did have analytical results were reviewed again, and those with frequent commercial uses were adjusted to a higher concentration tier. Those that do not have common uses were changed to the closest higher tier.
6. For the ease of analysis, and some uniformity, these derived values then were rounded up to one of the three concentrations; 75%, 10% and 1%.

The list includes 328 toxic air pollutants (TAP). As indicated above, these compounds are divided into three tiers (75%, 10% & 1%) for assessment. The first tier consists of 23 compounds with a maximum concentration of 75% by weight. The second tier is comprised of 71 compounds with a maximum expected concentration of 10% by

weight. Each of the compounds in the first two tiers is assessed individually for estimated emissions based on maximum concentration. The final tier is composed of 235 compounds with a maximum expected concentration of 1% or less. Of the 235 compounds, 29 compounds have been identified to be present at low level, hence they are included in the analysis. The remaining 206 compounds have not been assessed for estimated emissions, since their presence has not been documented and, therefore, their occurrence will be rare. Because they may be received on a sporadic basis and at a very low concentration, it is also expected that if all of the compounds assessed met the emissions control criteria through the APCD used, then the remainder of third tier compounds will also meet the emissions standards.

#### **4. VAPOR PRESSURE DATA**

For the compounds under consideration, vapor pressure data has been tabulated in Table 3. The data includes actual values of vapor pressure at seven (7) select temperatures and is shown for the available compounds in the columns (F, G, H, I, J, K and L) of the Tables 3. This data has been obtained from various references. However such data could not be found for every compound of concern at all of the seven select temperatures. Therefore, independent of the discrete data points, Antoine's Equation has been used to compute vapor pressure for the compounds for which the equation constants were known. The computed values are tabulated in column Q of the Tables. Note that in calculating the vapor pressure normal operating temperature is assumed to be 60 degrees F.

#### **5. CONCENTRATION OF CHEMICAL IN VAPORS (at Saturation)**

Table 4 provides tabulation of computations to determine maximum possible chemical concentration in the vapor phase that would be present in the air emissions leaving the process units. The calculations assume that the chemical concentration in vapor phase in the storage tanks (headspace), metal wash system and that at shredding tower will be at equilibrium with the concentration of chemical in the liquid phase. In other words, the vapor phase is considered to be in a saturated state, in order to evaluate the worst case scenario.

The column "R" provides the vapor pressures used for the concentration calculations. The data for the vapor pressure is obtained from the Table 3. In the column, R, discrete temperature values of vapor pressure are used wherever the data point for the discrete temperature 60 degrees F is available. Otherwise, calculated values of vapor pressure are used.

To determine the mole fraction (tabulated in column T) of each chemical in the waste mixture, the expected maximum concentration (as identified in column S) of chemical has been used. The remaining component of the mixture is considered to be

## **"STODDARD SOLVENT"**

The mole fraction data is used to arrive at the worst case vapor pressure (partial pressure at saturation) of each chemical. The partial pressure data is tabulated in the column "V".

Based on the partial pressure (Column V) and the molecular weight (column D), worst case concentration of each chemical is computed and presented in column "Y", in terms of pound mass of chemical per pound mass of air. This information is tabulated in two different forms in columns Z & AA.

### **6. VENT RATE**

Tank farm vent system supports four storage tanks and the metal wash system. All Four storage tanks are connected to a common header in which a vent header blower discharge from metal wash system is connected leading to the air pollution control system. The system consists of two carbon columns in series. Each carbon column holds approximately 1,800 pounds of carbon. For a peak loading scenario, it is assumed that, one bulk truck is being unloaded at a rate of 200 Gallons/minute (gpm) into the storage tank, and blended fuel is being transferred into another storage tank at a rate of 200 gpm. Thus causing the total vapor displacement of 400 gpm (53.5 cfm) from the tanks. Assuming a maximum of 40,000 gallons of fuel being received per day and about 40,000 net gallons of blended fuels being generated, the peak operation will be "on" for approximately 200 minutes (3.5 hours). For off-peak operation, it is assumed that the thermal losses will be the only emissions occurring from the storage tanks. This will be about 1250 SCFH or 20 SCFM. This will occur for the duration of 12.5 hours per day. For the remaining 8 hrs a N2 inflow will be required to compensate for the cooling effect.

The Metal shredding system will have equivalent steady state vent rate of 20 SCFM of saturated vapors. The vent header from the metal wash system is connected to 200 SCFM capacity blower that will maintain a very slight negative pressure into the wash system.

Therefore the total peak and off-peak venting rates will be 73.5 and 40 SCFM. In addition, during the 8 hr. period of no emissions from the tanks, the metal wash system will have equivalent of 20 SCFM saturated vapors being vented. For a conservative approach, vent rates of 75 SCFM for 3.5 hrs. and 40 SCFM for 20.5 hrs. is used.

With the flow rates and the duration identified, columns AD and AG provide the chemical loading to the carbon for each period. Column AH shows the theoretical average vent rate. The total loading is shown in column AI, which is a result of addition of values in column AD and AG.

In case of the Shredding process & fuels blending operation, the N2 supply is provided at a rate of 200 SCFM controlled by an Oxygen sensor to maintain oxygen level at or below 8%. The shredding tower is also provided with N2 for initial purge and in-process purge due to opening and closing of airlock chamber. The combined flow rate of N2 to shredding tower is estimated to be 72.5 SCFM on an average steady state basis. The hydropulper tank is vented into the common header leading to a vent blower rated at 300 SCFM. This blower maintains a slight negative pressure with in the system. At a nominal capacity of 30 drums/hour, the hydropulper will have the working losses of 1650 SCFH or 27.5 SCFM. Therefore the combined vent rate of saturated vapors from the system wold be 100 SCFM. With a 10% contingency, this will be then 110 SCFM, as used in the calculations and shown in column "AB" of Table 6. Using the flow rate of 110 SCFM and vent rate of 300 SCFM, the chemical concentration in the exhaust at the APCD inlet is calculated and tabulated in column AD. Using the calculated concentration and the flow data, total maximum chemical loading per day is computed (column AF). The numbers in the column AF (lb./day), represent the maximum loading of each compound, assuming that the wastes processed during a 24 hour period would contain that particular chemical at the assumed concentration.

## **7. CARBON USAGE/BREAK-THROUGH TIME**

The calculated maximum chemical loading per day (column "AI " of Table 7 and column "AF" of Table 8) was used to determine the estimated time before the break-through of the carbon could occur, if the loading rate were to be continued. The manufacturer of the activated carbon, Calgon Co., has provided the data for the adsorption capacity of Granulated Activated carbon (GAC) for each chemical. Each carbon vessel has 1800 lb. Carbon. Therefore, the break-through time is computed to provide the use of first vessel only. The second carbon bed in series acts as a back-up/safety.

Table 7 and 8 depict these calculations for tank farm/metal wash system and the shredding tower/fuels blending operation, respectively.

## **8. SUMMARY**

The detailed calculations and the discussion herein, confirms that the two Granular Activated Carbon (GAC) units will provide adequate controls for the emissions of organic compounds considered.

The GAC units, 1800 lbs. each, are connected in series for the use as an Air Pollution Control Device (APCD) at CHI facility for the tank farm and the fuels blending operation.

It has been shown that under a worst case scenario, for any given chemical considered, several hours of control will be provided before a break-through of the first bed can occur.

Clean Harbors, Inc.  
Chicago Facility  
List of organic compounds

CAS Number	Constituent	Mol. Wt.	Density lb/gal	Max. Temp. deg. F	Conc. by wt. %
	<i>Column ID --&gt;</i>	<i>D</i>	<i>E</i>	<i>P</i>	<i>S</i>
124-18-5	Decane	142.29	6.09	60	75%
112-40-3	Dodecane	170	6.25	60	75%
1120-21-4	Undecane	156.35	6.18	60	75%
95-47-6	1,2 dimethyle benzene	106.17	7.35	60	75%
78-93-3	2, BUTANINE	72.1	6.75	60	75%
108-10-1	4 methyl 2 pentanone	100.2	6.68	60	75%
67-64-1	ACETONE	58.08	6.63	60	75%
108-90-7	CHLOROBENZENE	112.6	9.24	60	75%
100-82-7	CYCLOHEXANE	84.16	6.52	60	75%
64-17-5	ETHANOL	46.07	6.61	60	75%
141-78-6	ETHYL ACETATE	88.1	7.55	60	75%
100-41-4	ETHYL BENZENE	106.17	7.23	60	75%
142-82-5	HEPTANE	100.2	5.73	60	75%
110-54-3	HEXANE	86.17	5.53	60	75%
78-83-1	ISOBUTYL ALCOHOL	74.12	6.71	60	75%
67-63-0	ISOPROPYL ALCOHOL	60.09	6.57	60	75%
67-56-1	METHANOL	32.04	6.63	60	75%
8030-30-6	NAPHTHA	127.08	7.32	60	75%
111-65-9	OCTANE	114.23	5.87	60	75%
8052-41-3	STODDARD SOLVENT	127.08	8.34	60	75%
108-88-3	TOLUENE	92.13	7.26	60	75%
8006-64-2	TURPENTINE	136	7.17	60	75%
1330-20-7	XYLENES	106.17	7.24	60	75%
611-14-3	1 ethyl 2 methyl benzene	120.2	7.35	60	10%
108-67-8	1,3,5 trimethyl benzene	120.21	7.21	60	10%
584-94-1	2,3 dimethyl hexane	114.23	5.94	60	10%
589-34-4	3 methyl hexane	120.21	5.72	60	10%
96-14-0	3 methyl pentane	86.18	5.54	60	10%
103-65-1	propyl benzene	120.21	7.19	60	10%
75-34-3	1,1 DICHLOROETHANE	98.97	9.86	60	10%
540-59-0	1,1 DICHLOROETHYLENE	96.95	10.76	60	10%
71-55-6	1,1,1 TRICHLOROETHANE	133.42	11.22	60	10%
630-20-6	1,1,1,2 TETRACHLOROETHANE	167.85	13.34	60	10%
76-13-1	1,1,2 TRICHLORO 1,2,2 TRIFLUOROETHANE	187.38	13.18	60	10%
79-00-5	1,1,2 TRICHLOROETHANE	133.4	11.16	60	10%
79-34-5	1,1,2,2 TETRACHLOROETHANE	167.85	13.24	60	10%
107-06-2	1,2 DICHLOROETHANE	98.97	10.5	60	10%
111-76-2	2 BUTOXYETHANOL	118.2	7.52	60	10%
110-80-5	2 ETHOXYETHANOL	90.14	7.81	60	10%
111-15-9	2 ETHOXYETHYL ACETATE	132.18	8.13	60	10%
591-78-6	2 HEXANONE	100.18	6.92	60	10%
110-49-6	2 METHOXYETHYL ACETATE	118.13	8.38	60	10%

Chicago Facility  
List of organic compounds

CAS Number	Constituent	Mol. Wt.	Density lb/gal	Max. Temp. deg. F	Conc. by wt. %
	Column ID -->	D	E	P	S
95-48-7	2 methylphenol	108.14	8.74	60	10%
109-86-4	2 METHOXYETHANOL	76.11	8.06	60	10%
106-44-5	4 methylphenol	108.1	8.63	60	10%
98-83-9	A METHYL STYRENE	118	7.59	60	10%
75-07-0	ACETALDEHYDE	44	6.58	60	10%
64-19-07	ACETIC ACID	60.05	8.79	60	10%
75-5-8	ACETONITRILE	41.05	6.56	60	10%
71-43-2	BENZENE	78.11	7.37	60	10%
117-81-7	bis(2 ethylhexyl)phthalate	390.54	8.23	60	10%
56-23-5	CARBON TETRACHLORIDE	153.84	13.37	60	10%
67-66-3	CHLOROFORM	119.39	12.49	60	10%
1319-77-3	CRESOL	108.13	8.76	60	10%
98-82-8	CUMENE	120.2	7.21	60	10%
108-93-0	CYCLOHEXANOL	100.2	8.03	60	10%
108-94-1	CYCLOHEXANONE	98.2	7.91	60	10%
110-83-8	CYCLOHEXENE	82.15	6.76	60	10%
542-92-7	Cyclopentadiene	66.1	6.69	60	10%
84-74-2	di n butylphthalate	278.38	8.34	60	10%
117-84-0	di n octylphthalate	390.54	8.23	60	10%
108-83-8	DIISOBUTYL KETONE	142.23	6.72	60	10%
68-12-2	DIMETHYL FORMAMIDE	73.09	7.58	60	10%
131-11-3	dimethylphthalate	194.2	9.97	60	10%
123-91-1	DIOXANE	88.1	8.66	60	10%
541-85-5	ETHYL AMYL KETONE	128.24	6.86	60	10%
106-35-4	ETHYL BUTYL KETONE	114.21	6.84	60	10%
60-29-7	ETHYL ETHER	74.12	5.99	60	10%
56-81-5	GLYCERIN	92.11	10.51	60	10%
67-72-1	HEXACHLOROETHANE	236.72	17.44	60	10%
123-92-2	ISOAMYL ACETATE	130.18	7.31	60	10%
123-51-3	ISOAMYL ALCOHOL	88.15	6.76	60	10%
110-19-0	ISOBUTYL ACETATE	116.16	7.27	60	10%
78-59-1	ISOPHORONE	138.2	7.68	60	10%
108-21-4	ISOPROPYL ACETATE	102.15	7.29	60	10%
79-20-9	METHYL ACETATE	74.08	7.83	60	10%
108-11-2	METHYL AMYL ALCOHOL	102.18	6.73	60	10%
110-43-0	METHYL N AMYL KETONE	114.21	6.84	60	10%
107-87-9	METHYL PROPYL KETONE	86.15	6.7	60	10%
75-09-2	METHYLENE CHLORIDE	84.94	11.12	60	10%
123-86-4	N BUTYL ACETATE	116.18	7.34	60	10%
71-36-3	N BUTYL ALCOHOL	74.12	6.76	60	10%
98-95-3	NITROBENZENE	123.1	10.06	60	10%
109-66-0	PENTANE	72.05	5.25	60	10%
108-95-2	PHENOL	94.11	8.83	60	10%
105-46-4	SEC BUTYL ACETATE	116.18	7.21	60	10%
78-92-2	SEC BUTYL ALCOHOL	74.12	6.73	60	10%



**Chicago Facility**  
**List of organic compounds**

CAS Number	Constituent	Mol. Wt.	Density lb/gal	Max. Temp. deg. F	Conc. by wt. %
	<i>Column ID --&gt;</i>	<i>D</i>	<i>E</i>	<i>P</i>	<i>S</i>
100-42-5	STYRENE	104.15	7.56	60	10%
75-65-0	TERT BUTYL ALCOHOL	74.12	6.6	60	10%
127-18-4	TETRACHLOROETHYLENE	165.83	13.55	60	10%
109-99-9	TETRAHYDROFURAN	72.12	7.42	60	10%
156-60-5	TRANS 1,2 DICHLOROETHYLENE	96.95	10.52	60	10%
79-01-6	TRICHLOROETHYLENE	131.4	12.27	60	10%
na	1,1' oxybis(2 methoxy) ethane	134.12	7.88	60	10%

Clean Harbors, Inc.  
Chicago Facility  
List of organic compounds

AS Number	Constituent	Mol. Wt.	Density lb/gal	Max. Temp. deg. F	Conc. by wt. %
	<i>Column ID --&gt;</i>	<i>D</i>	<i>E</i>	<i>P</i>	<i>S</i>
3-87-5	1,2 DICHLOROPROPANE	112.99	9.67	60	1%
3-46-9	2 NITROPROPANE*	89.09	8.26	60	1%
07-02-8	acrolein	56.1	7.03	60	1%
07-13-1	ACRYLONITRILE*	53.06	6.76	60	1%
07-18-6	ALLYL ALCOHOL	76.53	7.13	60	1%
07-05-1	Allyl Chloride	56.53	7.86	60	1%
2-53-3	Aniline	93.1	8.53	60	1%
1-59-8	b NAPTHAYLAMINE*	143.2	8.85	60	1%
42-88-1	BIS (CHLOROMETHYL) ETHER*	114.96	10.7	60	1%
06-99-0	BUTADIENE*	54.1	5.18	60	1%
5-15-0	CARBON DISULFIDE*	76.13	10.59	60	1%
42-40-3	DIMETHYLAMINE	45.08	5.6	60	1%
0-00-00	FORMALDEHYDE*	30.03	8.34	60	1%
7-47-4	hexachlorocyclopentadiene	272.7	14.26	60	1%
02-01-2	hydrazine*	32.05	8.41	60	1%
0-34-4	methylhydrazine	46.09	7.29	60	1%
7-14-7	1,1 dimethylhydrazine	60.1	7.88	60	1%
5-01-4	vinyl chloride	62.5	8.08	60	1%
2-75-9	N nitrosodimethylamine	74.1	8.38	60	1%
4-90-8	hydrogen cyanide	27.03	5.77	60	1%
08-03-2	1 NITROPROPANE	89.09	8.29	60	1%
1-41-0	1 pentanol	88.15	6.81	60	1%
5-57-8	2 chlorophenol	128.56	10.49	60	1%
1-57-6	2 methyl naphthalene	142.2	8.5	60	1%
09-89-7	DIETHYLAMINE	73.14	5.9	60	1%
9-10-7	acrylic acid	72.06	8.86	60	1%
3-32-9	acenaphthene	154.21	8.34	60	1%
5-00-3	CHLOROETHANE	64.52	7.45	60	1%
4-87-3	CHLOROMETHANE	50.49	8	60	1%
7-68-3	hexachlorobutadiene				<1%
22-66-7	1,2 diphenylhydrazine				<1%
06-20-2	2,6 DINITROTOLUENE				<1%
8-85-7	4,6 dinitro 2 methphenol				<1%
6-44-8	heptachlor				<1%
2-87-5	benzedine				<1%
na	1 isocyano butane				<1%
01-17-8	decahydro naphthalene				<1%
795-15-9	octyl cyclohexane				<1%
na	1 (2 methoxy propoxy) 2 propanol				<1%
000-25-9	1 CHLORO 1 NOTROPROPANE				<1%
594-72-9	1,1 DICHLORO 1 NITROETHANE				<1%
76-11-9	1,1,1,2 TETRACHLORO 2,2 DIFLUOROETHANE				<1%
76-12-0	1,1,2,2 TETRACHLORO 2,2 DIFLUOROETHANE				<1%
95-50-1	1,2 DCB				<1%

Table 2

Chicago Facility  
List of organic compounds

CAS Number	Constituent	Mol. Wt.	Density lb/gal	Max. Temp. deg. F	Conc. by wt. %
Column ID -->		D	E	P	S
96-12-8	1,2 DIBROMO 3 CHLOROPROPANE*				<1%
96-18-4	1,2,3 TRICHLOROPROPANE				<1%
120-82-1	1,2,4 trichlorobenzene				<1%
541-73-1	1,3 DCB				<1%
106-46-7	1,4 DCB				<1%
na	2 (2 butoxy ethoxy) ethanol				<1%
na	2 (hexy/oxy) ethanol				<1%
126-99-8	2 CHLORO 1,3 BUTADIENE				<1%
110-75-8	2 chloroethyl vinyl ether				<1%
91-58-7	2 chloronaphthalene				<1%
100-37-8	2 DIETHYLAMINOETHANOL				<1%
149-57-5	2 ethyl hexanoic acid				<1%
100-01-6	2 NITROANILINE				<1%
88-75-5	2 nitrophenol				<1%
120-83-2	2,4 dichlorophenol				<1%
105-67-9	2,4 dimethylphenol				<1%
95-95-4	2,4,5 trichlorophenol				<1%
88-06-2	2,4,6 trichlorophenol				<1%
99-09-2	3 NITROANILINE				<1%
101-55-3	4 bromophenylphenyl ether				<1%
59-50-7	4 chloro 3 methylphenol				<1%
106-47-8	4 chloroaniline				<1%
7005-72-3	4 chlorophenylphenyl ether				<1%
na	4 fluor 1,1' biphenyl				<1%
123-42-2	4 HYDROXY 4 METHYL 2 PENTANONE				<1%
100-01-6	4 NITROANILINE				<1%
92-93-3	4 NITRODIPHENYL				<1%
100-02-7	4 nitrophenol				<1%
532-27-4	a CHLOROACETOPHENONE				<1%
134-32-7	a NAPHTHYLAMINE				<1%
208-96-8	acenaphthylene				<1%
79-27-6	ACETYLENE TETRABROMIDE				<1%
260-94-6	ACRIDINE				<1%
106-92-3	ALLYL GLYCIDYL ETHER				<1%
7440-39-3	barium				<1%
100-44-7	benzyl chloride				<1%
111-91-1	bis (2 chloroethoxy) methane				<1%
111-44-4	bis (2 chloroethyl) ether				<1%
108-60-1	bis (2 chloroisopropyl) ether				<1%
75-27-4	bromodichloromethane				<1%
75-25-2	bromoform				<1%
74-83-9	BROMOMETHANE				<1%
106-97-8	butane				<1%
109-73-9	BUTYLAMINE				<1%
85-68-7	butylbenzylphthalate				<1%
7440-43-9	cadmium				<1%
107-20-0	CHLOROACETALDEHYDE				<1%

Chicago Facility  
List of organic compounds

CAS Number	Constituent	Mol. Wt.	Density lb/gal	Max. Temp. deg. F	Conc. by wt. %
Column ID -->		D	E	P	S
74-97-5	CHLOROBROMOMETHANE				<1%
107-30-2	CHLOROMETHYL METHYL ETHER				<1%
7440-47-3	chromium				<1%
218-01-9	chrysene				<1%
10061-01-5	cis 1,3 dichloropropene				<1%
123-73-9	CROTONALDEHYDE				<1%
124-48-1	dibromochloromethane				<1%
106-93-4	DIBROMOETHANE				<1%
75-71-8	DICHLORODIFLUOROMETHANE				<1%
111-44-4	DICHLOROETHYL ETHER				<1%
76-14-2	DICHLOROTETRAFLUOROETHANE				<1%
84-66-2	diethylphthalate				<1%
75-61-6	DIFLUORODIBROMOMETHANE				<1%
2238-07-5	DIGLYCIDYL ETHER				<1%
123-31-9	DIHYDROXYBENZENE				<1%
108-18-9	DIISOPROPYLAMINE				<1%
127-19-5	DIMETHYL ACETAMIDE				<1%
121-69-7	DIMETHYLAMINO BENZENE				<1%
121-69-7	DIMETHYLANILINE				<1%
77-78-1	dimethylsulfate				<1%
92-52-4	DIPHENYL				<1%
34690-94-8	DIPROPYLENE GLYCOL METHYL ETHER				<1%
106-89-8	EPICHLOROHYDRIN				<1%
141-43-5	EHTANOLAMIN				<1%
140-88-5	ETHYL ACRYLATE				<1%
74-96-4	ETHYL BROMIDE				<1%
109-94-4	ETHYL FORMATE				<1%
75-04-7	ETHYLAMINE				<1%
107-15-3	ETHYLENEDIAMIN				<1%
75-21-8	ETHYLENE OXIDE*				<1%
206-44-0	fluoranthene				<1%
86-73-7	fluorene				<1%
64-18-6	formic acid				<1%
98-01-1	FURFURAL				<1%
98-00-0	FURFURYL ALCOHOL				<1%
110-80-5	GLYCOL MONOETHYL ETHER				<1%
556-52-5	GLYCIDOL				<1%
118-74-1	hexachlorobenzene				<1%
123-31-9	HYDROQUINONE				<1%
74-88-4	idomethane				<1%
108-20-3	ISOPROPYL ETHER				<1%
4016-14-2	ISOPROPYL GLYCIDYL ETHER				<1%
75-31-0	ISOPROPYLAMINE				<1%
463-15-4	KETENE				<1%
7439-92-1	lead				<1%
1634-04-4	methyl t butylether				<1%
74-99-7	METHYL ACETYLENE				<1%

Chicago Facility  
List of organic compounds

CAS Number	Constituent	Mol. Wt.	Density lb/gal	Max. Temp. deg. F	Conc. by wt. %
Column ID -->		D	E	P	S
107-31-3	METHYL FORMATE				<1%
80-62-6	METHYL METHACRYLATE				<1%
109-87-5	METHYLAL				<1%
74-89-5	METHYLAMINE				<1%
108-87-2	METHYLCYCLOHEXANE				<1%
25639-42-3	METHYLCYCLOHEXANOL				<1%
110-91-4	MORPHOLINE				<1%
2426-08-6	N BUTYL GLYCIDYL ETHER				<1%
109-60-4	N PROPYL ACETATE				<1%
71-23-4	N PROPYL ALCOHOL				<1%
91-20-3	NAPTHALENE				<1%
7440-02-0	nickel				<1%
99-08-1	NITROTOLUENE				<1%
583-60-8	o METHYLCYCLOHEXANONE				<1%
100-00-5	p NITROCHLOROBENZENE				<1%
106-50-3	p PHENYLENE DIAMINE				<1%
98-51-1	p TERT BUTYLTOLUENE				<1%
1321-64-8	PENTACHLORONAPHTHALENE				<1%
87-86-5	PENTACHLOROPHENOL				<1%
115-77-5	PENTAERYTHRITOL				<1%
85-01-8	phenanthrene				<1%
101-84-8	PHENYL EHTER				<1%
122-60-1	PHENYL GLYCIDYL ETHER				<1%
74-98-6	PROPANE				<1%
78-87-5	PROPYLENE DICHLORIDE				<1%
75-55-8	PROPYLENE IMENE				<1%
75-66-9	PROPYLENE OXIDE				<1%
110-86-1	pyrene				<1%
110-86-1	PYRIDINE				<1%
106-51-4	QUINONE				<1%
108-84-9	SEC HEXYL ACETATE				<1%
1320-73-2	SODIUM HYDROXIDE				<1%
1335-88-2	TETRACHLORONAPHTHALENE				<1%
78-00-2	TETRAETHYL LEAD				<1%
95-53-4	TOLUIDINE				<1%
10061-02-6	trans 1,3 dichloropropene				<1%
126-73-4	TRIBUTYL PHOSPHATE				<1%
75-69-4	TRICHLOROFLUOROMETHANE				<1%
1321-65-9	TRICHLORONAPHTHALENE				<1%
121-44-8	TRIETHYL AMINE				<1%
75-63-8	TRIFLUOROBROMOMETHANE				<1%
118-96-7	TRIORTHOCRESYL PHOSPHATE				<1%
115-86-6	TRIPHENYL PHOSPHATE				<1%
108-05-4	vinyl acetate				<1%
25013-15-4	VINYL TOLUENE				<1%
94-75-7	2,4 D				<1%
51-28-5	2,4 nitrophenol				<1%

**Chicago Facility**  
**List of organic compounds**

CAS Number	Constituent	Mol. Wt.	Density lb/gal	Max. Temp. deg. F	Conc. by wt. %
Column ID -->		D	E	P	S
121-14-2	2,4 DINITROTOLUENE				<1%
93-72-1	2,4,5 TP				<1%
91-94-1	3,3 dichlorobenzidine				<1%
60-11-7	4 dimethylaminoazobenzene				<1%
72-54-8	4,4' DDD				<1%
72-55-9	4,4' DDE				<1%
50-29-3	4,4' DDT				<1%
309-00-2	aldrine				<1%
319-84-6	alpha BHC				<1%
120-12-7	ANTHRACENE				<1%
7440-38-2	arsenic				<1%
56-55-3	benzo(a)anthracene				<1%
50-32-8	benzo(a)pyrene				<1%
205-99-2	benzo(b)fluoranthene				<1%
191-24-2	benzo(ghi)perylene				<1%
207-08-9	benzo(k)fluoranthene				<1%
7440-41-7	beryllium				<1%
319-85-7	beta BHC				<1%
57-74-9	chlordane				<1%
319-86-8	delta BHC				<1%
53-70-3	dibenzo(a,h)anthracene				<1%
132-64-9	dibenzofuran				<1%
60-57-1	dieldrine				<1%
534-52-1	DINITRO O CRESOL				<1%
528-29-0	DINITROBENZENE				<1%
115-29-7	endosulfan				<1%
na	endosulfan sulfate				<1%
72-20-8	endrin				<1%
na	endrin aldehyde				<1%
na	endrin ketone				<1%
1024-57-3	heptachlor epoxide				<1%
7783-06-4	HYDROGEN SULFIDE				<1%
193-39-5	indeno(1,2,3 cd)pyrene				<1%
58-89-9	lindane				<1%
108-31-6	maleic anhydride				<1%
7439-97-6	mercury				<1%
72-43-5	methoxychlor				<1%
621-64-7	N nitroso di n propylamine				<1%
86-30-6	N nitrosodiphenylamine				<1%
79-24-3	NITROETHANE				<1%
7664-41-7	ammonia				<1%
55-63-0	NITROGLYCERIN				<1%
75-52-5	NITROMETHANE				<1%
56-38-2	parathion				<1%
671-16-9	PCB				<1%
85-44-9	PHTHALIC ANHYDRIDE				<1%
7782-49-2	selenium				<1%

**Chicago Facility**  
**List of organic compounds**

CAS Number	Constituent	Mol. Wt.	Density lb/gal	Max. Temp. deg. F	Conc. by wt. %
<i>Column ID --&gt;</i>		<i>D</i>	<i>E</i>	<i>P</i>	<i>S</i>
7740-22-4	silver				<1%
584-84-9	toluene 2,4 diisocyanate				<1%
8001-35-2	toxaphene				<1%

CAS Number	Constituent	Vapor Pressure (psia) at Temperature (degrees F)							Equation (deg. C)			Max. Temp. deg. F	Estimated Vap Press psia
		40	50	60	70	80	90	100	A	B	C		
		F	G	H	I	J	K	L	M	N	O	P	Q
	Column ID -->												
124-18-5	Decane	0.0190	0.0190	0.0190	0.0190	0.0190	0.0190	0.0190	6.94	1495.17	193.86	60	0.0123
112-40-3	Dodecane	0.0190	0.0190	0.0190	0.0190	0.0190	0.0190	0.0190	7.00	1639.27	181.84	60	0.0010
1120-21-4	Undecane	0.0190	0.0190	0.0190	0.0190	0.0190	0.0190	0.0190	6.97	1569.57	187.70	60	0.0034
95-47-6	1,2 dimethyle benzene	0.0000	0.0000	0.0711	0.0000	0.0000	0.0000	0.0000	7.00	1474.68	213.69	60	0.0711
78-93-3	2, BUTANINE	0.7150	0.9280	1.1990	1.4890	2.0690	2.6680	3.3450	6.97	1209.60	216.00	60	1.0884
108-10-1	4 methyl 2 pentanone	0.0000	0.0000	0.2120	0.0000	0.0000	0.0000	0.0000	6.67	1168.40	191.90	60	0.2120
67-64-1	ACETONE	1.6820	2.1850	2.8620	3.7130	4.6990	5.9170	7.2510	7.12	1210.60	229.66	60	2.9282
108-90-7	CHLORO BENZENE	0.0000	0.0000	0.1335	0.0000	0.0000	0.0000	0.0000	6.98	1431.05	217.55	60	0.1335
100-82-7	CYCLOHEXANE	0.6770	0.9280	1.2180	1.6050	2.0690	2.6100	3.2490	6.84	1201.53	222.65	60	1.2114
64-17-5	ETHANOL	0.1930	0.4060	0.6190	0.8700	1.2180	1.6820	2.3200	8.32	1718.21	237.52	60	0.6578
141-78-6	ETHYL ACETATE	0.5800	0.8310	1.1020	1.4890	1.9340	2.5140	3.1910	7.10	1244.95	217.88	60	1.1330
100-41-4	ETHYL BENZENE	0.0000	0.0000	0.1085	0.0000	0.0000	0.0000	0.0000	6.98	1424.26	213.21	60	0.1085
142-82-5	HEPTANE	0.2900	0.4060	0.5410	0.7350	0.9670	1.2380	1.5860	6.90	1264.90	216.54	60	0.5401
110-54-3	HEXANE	1.1020	1.4500	1.8760	2.4360	3.0550	3.9060	4.8920	6.88	1171.17	224.41	60	1.9134
78-83-1	ISOBUTYL ALCOHOL	0.0580	0.0970	0.1350	0.1930	0.2710	0.3870	0.5410	7.47	1314.19	186.55	60	0.1812
67-63-0	ISOPROPYL ALCOHOL	0.2130	0.3290	0.4830	0.6770	0.9280	1.2960	1.7790	0.00	0.00	0.00	60	0.0000
67-56-1	METHANOL	0.7350	1.0060	1.4120	1.9530	2.6100	3.4610	4.5250	7.90	1474.08	229.13	60	1.4421
8030-30-6	NAPHTHA	0.0940	0.0940	0.0940	0.0940	0.0940	0.0940	0.1240	0.00	0.00	0.00	60	0.0000
111-65-9	OCTANE	0.0000	0.0000	0.0193	0.0000	0.0000	0.0000	0.0000	6.92	1351.99	209.15	60	0.1541
8052-41-3	STODDARD SOLVENT	0.0940	0.0940	0.0940	0.0940	0.0940	0.0940	0.1240	0.00	0.00	0.00	60	0.0000
108-88-3	TOLUENE	0.1740	0.2130	0.3090	0.4250	0.5800	0.7730	1.0060	6.95	1344.80	219.48	60	0.3301
8006-64-2	TURPENTINE	0.5250	0.5250	0.5610	0.6360	0.7180	0.8070	0.9030	0.00	0.00	0.00	60	0.0000
1330-20-7	XYLENES	0.0000	0.0000	0.1295	0.0000	0.0000	0.0000	0.0000	7.01	1426.27	215.11	60	0.1295
611-14-3	1 ethyl 2 methyl benzene	0.1900	0.1900	0.1900	0.1900	0.1900	0.1900	0.1900	0.00	0.00	0.00	60	0.0000
108-67-8	1,3,5 trimethyl benzene	0.0190	0.0190	0.0390	0.0590	0.0790	0.0990	0.1900	7.07	1569.62	209.58	60	0.0245
584-94-1	2,3 dimethyl hexane	0.1900	0.2800	0.3700	0.4600	0.5500	0.6500	0.7700	6.87	1315.50	214.16	60	0.2690
589-34-4	3 methyl hexane	0.7740	0.9600	1.1500	1.3400	1.5300	1.7200	1.9340	6.87	1240.20	219.22	60	0.7429
96-14-0	3 methyl pentane	1.9300	1.9300	1.9300	1.9300	1.9300	1.9300	1.9300	6.85	1152.37	227.13	60	2.4321
103-65-1	propyl benzene	0.1930	0.1930	0.1930	0.1930	0.1930	0.1930	0.1930	0.00	0.00	0.00	60	0.0000
75-34-3	1,1 DICHLOROETHANE	1.6820	2.2430	2.9010	3.7710	4.7380	5.8400	7.1930	6.98	1174.02	229.06	60	2.9103
540-59-0	1,1 DICHLOROETHYLENE	1.4500	2.0110	2.6680	3.4610	4.4090	5.6460	6.8070	6.97	1099.40	237.20	60	8.1045
71-55-6	1,1,1 TRICHLOROETHANE	0.9090	1.2180	1.5860	2.0300	2.6100	3.3070	4.1990	8.64	2136.60	302.80	60	1.6520
630-20-6	1,1,1,2 TETRACHLOROETHANE	0.0000	0.0000	0.1324	0.0000	0.0000	0.0000	0.0000	6.90	1365.88	209.74	60	0.1324
76-13-1	1,1,2 TRICHLORO 1,2,2 TRIFLUOROETHANE	0.0000	0.0000	4.3761	0.0000	0.0000	0.0000	0.0000	6.88	1099.90	227.50	60	4.3760
79-00-5	1,1,2 TRICHLOROETHANE	0.0000	0.0000	0.2450	0.0000	0.0000	0.0000	0.0000	6.95	1314.41	209.20	60	0.2450
79-34-5	1,1,2,2 TETRACHLOROETHANE	0.0000	0.0000	0.0431	0.0000	0.0000	0.0000	0.0000	6.63	1228.10	179.90	60	0.0431
107-06-2	1,2 DICHLOROETHANE	0.5610	0.7730	1.0250	1.4310	1.7400	2.2430	2.8040	7.03	1272.30	222.90	60	0.9458
110-80-5	2 ETHOXYETHANOL	0.0740	0.0740	0.0740	0.0740	0.0740	0.0740	0.0740	0.00	0.00	0.00	60	0.0000

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CAS Number	Constituent	Vapor Pressure (psia) at Temperature (degrees F)							Equation (deg. C)			Max. Temp. deg. F	Estimated Vap Press psia
		40	50	60	70	80	90	100	A	B	C		
	Column ID -->	F	G	H	I	J	K	L	M	N	O	P	Q
111-76-2	2 BUTOXYETHANOL	5.8030	5.8030	5.8030	5.8030	5.8030	5.8030	5.8030	0.00	0.00	0.00	60	0.0000
111-15-9	2 ETHOXYETHYL ACETATE	0.0230	0.0230	0.0230	0.0230	0.0230	0.0230	0.0230	0.00	0.00	0.00	60	0.0000
591-78-6	2 HEXANONE	0.1930	0.1930	0.1930	0.1930	0.1930	0.1930	0.1930	0.00	0.00	0.00	60	0.0000
110-49-6	2 METHOXYETHYL ACETATE	0.0392	0.0392	0.0392	0.0392	0.0972	0.0972	0.0972	0.00	0.00	0.00	60	0.0000
95-48-7	2 methylphenol	0.0000	0.0000	0.0018	0.0000	0.0000	0.0000	0.0000	6.91	1435.50	165.16	60	0.0018
109-86-4	2 METHOXYETHANOL	0.1200	0.1200	0.1200	0.1200	0.1200	0.1200	0.1200	0.00	0.00	0.00	60	0.0000
106-44-5	4 methylphenol	0.0000	0.0000	0.0006	0.0000	0.0000	0.0000	0.0000	7.04	1511.08	161.85	60	0.0006
98-83-9	A METHYL STYRENE	0.0000	0.0000	0.0244	0.0000	0.0000	0.0000	0.0000	6.92	1486.88	202.40	60	0.0244
75-07-0	ACETALDEHYDE	0.0000	0.0000	12.1839	0.0000	0.0000	0.0000	0.0000	8.01	1600.02	291.81	60	12.1838
64-19-07	ACETIC ACID	0.0000	0.0000	0.1687	0.0000	0.0000	0.0000	0.0000	7.39	1533.31	222.31	60	0.1687
75-5-8	ACETONITRILE	0.6380	0.8310	1.0830	1.4120	1.8760	2.4560	3.1330	7.12	1314.40	230.00	60	1.1288
71-43-2	BENZENE	0.6380	0.8700	1.1600	1.5080	1.9720	2.6100	3.2870	6.91	1211.03	220.79	60	1.1679
117-81-7	bis(2 ethylhexyl)phthalate	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250	0.00	0.00	0.00	60	0.0000
56-23-5	CARBON TETRACHLORIDE	0.7930	1.0640	1.4120	1.7980	2.3010	2.9970	3.7710	6.93	1242.43	230.00	60	1.4478
67-66-3	CHLOROFORM	1.5280	1.9340	2.4750	3.1910	4.0610	5.1630	6.3420	6.49	929.44	196.03	60	2.4358
1319-77-3	CRESOL	0.0040	0.0060	0.0080	0.0120	0.0170	0.0240	0.0340	0.00	0.00	0.00	60	0.0000
98-82-8	CUMENE	0.0000	0.0000	0.0511	0.0000	0.0000	0.0000	0.0000	6.96	1460.79	207.78	60	0.0511
108-93-0	CYCLOHEXANOL	0.0000	0.0000	0.0017	0.0000	0.0000	0.0000	0.0000	6.26	912.87	109.13	60	0.0017
108-94-1	CYCLOHEXANONE	0.0000	0.0000	0.0550	0.0000	0.0000	0.0000	0.0000	7.85	2137.19	273.16	60	0.0541
110-83-8	CYCLOHEXENE	3.0950	3.0950	3.0950	3.0950	3.0950	3.0950	3.0950	6.84	1201.53	222.65	60	1.2114
542-92-7	Cyclopentadiene	7.6000	7.6000	7.6000	7.6000	7.6000	7.6000	7.6000	0.00	0.00	0.00	60	0.0000
84-74-2	di n butylphthalate	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.00	0.00	0.00	60	0.0000
117-84-0	di n octylphthalate	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250	0.00	0.00	0.00	60	0.0000
108-83-8	DIISOBUTYL KETONE	0.0350	0.0350	0.0350	0.0350	0.0500	0.0690	0.0950	0.00	0.00	0.00	60	0.0000
68-12-2	DIMETHYL FORMAMIDE	0.0000	0.0000	0.0404	0.0000	0.0000	0.0000	0.0000	6.93	1400.87	196.43	60	0.0404
131-11-3	dimethylphthalate	0.0190	0.0190	0.0190	0.0190	0.0190	0.0190	0.0190	0.00	0.00	0.00	60	0.0000
123-91-1	DIOXANE	0.2320	0.3290	0.4250	0.6190	0.8310	1.1410	1.5080	7.43	1554.68	240.34	60	0.4385
541-85-5	ETHYL AMYL KETONE	0.0190	0.0190	0.0190	0.0190	0.0190	0.0190	0.0190	0.00	0.00	0.00	60	0.0000
106-35-4	ETHYL BUTYL KETONE	0.0190	0.0190	0.0190	0.0190	0.0190	0.0190	0.0190	0.00	0.00	0.00	60	0.0000
60-29-7	ETHYL ETHER	4.2150	5.6660	7.0190	8.7020	10.4420	13.3420	0.0000	6.92	1064.07	228.80	60	7.1087
56-81-5	GLYCERIN	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00	0.00	60	0.0000
67-72-1	HEXACHLOROETHANE	0.0190	0.0190	0.0190	0.0190	0.0190	0.0190	0.0190	0.00	0.00	0.00	60	0.0000
123-92-2	ISOAMYL ACETATE	0.7370	0.7370	0.7370	0.7370	0.7370	0.6660	0.2710	7.44	1606.60	216.00	60	0.0608
123-51-3	ISOAMYL ALCOHOL	0.0120	0.0190	0.0300	0.0460	0.0700	0.1040	0.1520	0.00	0.00	0.00	60	0.0000
110-19-0	ISOBUTYL ACETATE	0.1880	0.1880	0.1880	0.2640	0.3640	0.4950	0.6640	0.00	0.00	0.00	60	0.0000
78-59-1	ISOPHORONE	0.0650	0.0650	0.0650	0.0650	0.0650	0.0650	0.0650	0.00	0.00	0.00	60	0.0000
108-21-4	ISOPROPYL ACETATE	0.3220	0.4540	0.6290	0.8590	1.1540	1.5300	2.0030	0.00	0.00	0.00	60	0.0000
79-20-9	METHYL ACETATE	1.4890	2.0110	2.7460	3.6930	4.6990	5.7620	6.9610	7.07	1157.63	219.73	60	2.6995
108-11-2	METHYL AMYL ALCOHOL	0.0730	0.0730	0.0730	0.1030	0.1450	0.2000	0.2740	0.00	0.00	0.00	60	0.0000
110-43-0	METHYL N AMYL KETONE	0.0190	0.0190	0.0190	0.0190	0.0190	0.0190	0.0190	0.00	0.00	0.00	60	0.0000
107-87-9	METHYL PROPYL KETONE	0.1900	0.1900	0.1900	0.1900	0.3900	0.5900	0.7700	0.00	0.00	0.00	60	0.0000

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CAS Number	Constituent	Vapor Pressure (psia) at Temperature (degrees F)							Equation (deg. C)			Max. Temp. deg. F	Estimated Vap Press psia
		40	50	60	70	80	90	100	A	B	C		
	Column ID -->	F	G	H	I	J	K	L	M	N	O	P	Q
75-09-2	METHYLENE CHLORIDE	3.0940	4.2540	5.4340	6.7870	8.7020	10.3290	13.3420	7.41	1325.90	252.60	60	5.6346
123-86-4	N BUTYL ACETATE	0.2900	0.2900	0.2900	0.2900	0.2900	0.2900	0.2900	0.00	0.00	0.00	60	0.0000
71-36-3	N BUTYL ALCOHOL	0.0000	0.0000	0.0565	0.0000	0.0000	0.0000	0.0000	7.48	1362.39	178.77	60	0.0565
98-95-3	NITROBENZENE	0.0000	0.0000	0.0023	0.0000	0.0000	0.0000	0.0000	7.12	1746.60	201.80	60	0.0023
109-66-0	PENTANE	4.2930	5.4540	6.8280	8.4330	10.4450	12.9590	15.4740	6.85	1064.84	233.01	60	7.1523
108-95-2	PHENOL	0.0120	0.0120	0.0120	0.0120	0.0170	0.0240	0.0340	7.13	1516.79	174.95	60	0.0029
105-46-4	SEC BUTYL ACETATE	0.1540	0.2170	0.3010	0.4100	0.5510	0.7310	0.9580	0.00	0.00	0.00	60	0.0000
78-92-2	SEC BUTYL ALCOHOL	0.0720	0.1120	0.1710	0.2550	0.3730	0.5360	0.7570	0.00	0.00	0.00	60	0.0000
100-42-5	STYRENE	0.0000	0.0000	0.0718	0.0000	0.0000	0.0000	0.0000	7.14	1574.51	224.09	60	0.0718
75-65-0	TERT BUTYL ALCOHOL	0.1740	0.2900	0.4250	0.6380	0.9090	1.2380	1.7020	0.00	0.00	0.00	60	0.0000
127-18-4	TETRACHLOROETHYLENE	0.0000	0.0000	0.2071	0.0000	0.0000	0.0000	0.0000	6.98	1386.92	217.53	60	0.2071
109-99-9	TETRAHYDROFURAN	0.0000	0.0000	2.0322	0.0000	0.0000	0.0000	0.0000	7.00	1202.29	226.25	60	2.0382
156-60-5	TRANS 1,2 DICHLOROETHYLENE	2.5520	3.3840	4.3510	5.5300	6.8070	8.3150	10.0160	6.97	1141.90	231.90	60	4.3333
79-01-6	TRICHLOROETHYLENE	0.5030	0.6770	0.8890	1.1800	1.5080	2.0300	2.6100	6.52	1018.60	192.70	60	0.8190
na	1,1' oxybis(2 methoxy) ethane	0.0410	0.0410	0.0410	0.0410	0.0580	0.0800	0.1090	0.00	0.00	0.00	60	0.0000
78-87-5	1,2 DICHLOROPROPANE	0.6360	0.6360	0.6360	0.8360	1.0880	1.4030	1.7930	6.98	1308.10	222.80	60	0.6003
79-46-9	2 NITROPROPANE*	0.2370	0.2370	0.2370	0.3170	0.4200	0.5510	0.7160	0.00	0.00	0.00	60	0.0000
107-02-8	acrolein	3.3980	4.3580	5.5370	6.9710	8.7010	10.7700	13.2400	0.00	0.00	0.00	60	0.0000
107-13-1	ACRYLONITRILE*	0.8120	0.9670	1.3730	1.7990	2.3780	3.1330	4.0220	7.04	1232.53	222.47	60	1.4004
107-18-6	ALLYL ALCOHOL	0.1350	0.1930	0.2610	0.3870	0.5220	0.7160	1.0060	0.00	0.00	0.00	60	0.0000
107-05-1	Allyl Chloride	2.9980	3.7720	4.7970	6.0150	7.4470	9.1100	11.0250	0.00	0.00	0.00	60	0.0000
62-53-3	Aniline	0.0000	0.0000	0.0062	0.0000	0.0000	0.0000	0.0000	7.32	1731.52	206.05	60	0.0062
91-59-8	b NAPTHAYLAMINE*	0.0190	0.0190	0.0190	0.0190	0.0190	0.0190	0.0190	0.00	0.00	0.00	60	0.0000
542-88-1	BIS (CHLOROMETHYL) ETHER*	1.1600	1.1600	1.1600	1.1600	1.1600	1.1600	1.1600	0.00	0.00	0.00	60	0.0000
106-99-0	BUTADIENE*	14.6900	14.6900	14.6900	14.6900	14.6900	14.6900	14.6900	0.00	0.00	0.00	60	0.0000
75-15-0	CARBON DISULFIDE*	3.0360	3.8670	4.8340	6.0140	7.3870	9.1850	11.2150	6.94	1169.11	241.59	60	4.8072
142-40-3	DIMETHYLAMINE	13.1600	13.1600	13.1600	13.1600	13.1600	13.1600	13.1600	0.00	0.00	0.00	60	0.0000
50-00-00	FORMALDEHYDE*	0.0280	0.0280	0.0280	0.0280	0.0420	0.0610	0.0890	0.00	0.00	0.00	60	0.0000
77-47-4	hexachlorocyclopentadiene	0.1800	0.1800	0.1800	0.1800	0.1800	0.1800	0.1800	0.00	0.00	0.00	60	0.0000
302-01-2	hydrazine*	0.0770	0.1110	0.1570	0.2210	0.3060	0.4190	0.5670	0.00	0.00	0.00	60	0.0000
60-34-4	methylhydrazine	0.5660	0.5660	0.5660	0.7690	1.0340	1.3760	1.8120	0.00	0.00	0.00	60	0.0000
57-14-7	1,1 dimethylhydrazine	0.0000	0.0000	1.8949	0.0000	0.0000	0.0000	0.0000	7.41	1305.91	225.53	60	1.8949
75-01-4	vinyl chloride	14.6900	14.6900	14.6900	14.6900	14.6900	14.6900	14.6900	0.00	0.00	0.00	60	0.0000
62-75-9	N nitrosodimethylamine	1.1600	1.1600	1.1600	1.1600	1.1600	1.1600	1.1600	0.00	0.00	0.00	60	0.0000
74-90-8	hydrogen cyanide	6.2840	7.8310	9.5140	11.8530	15.3920	18.5630	22.2370	7.53	1329.50	260.40	60	9.9216
108-03-2	1 NITROPROPANE	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	7.11	1467.45	215.23	60	0.1101
71-41-0	1 pentanol	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	7.18	1314.56	168.11	60	0.0202
95-57-8	2 chlorophenol	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	6.88	1471.61	193.17	60	0.0130
91-57-6	2 methylnapthalene	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	7.07	1840.27	198.40	60	0.0006
109-89-7	DIETHYLAMINE	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	5.80	583.30	144.10	60	2.7158

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		40	50	60	70	80	90	100	A	B	C		
		F	G	H	I	J	K	L	M	N	O	P	Q
79-10-7	acrylic acid	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	5.65	648.63	154.68	60	1.3436
83-32-9	acenaphthene	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	7.73	2534.23	245.58	60	0.0002
75-00-3	CHLOROETHANE	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	6.99	1230.01	238.61	60	2.7101
74-87-3	CHLOROMETHANE	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	7.09	1548.58	249.34	60	0.3415

CAS Number	Constituent	Mol. Wt.	Density lb/gal	Vapor Press. psia	Conc. by wt. %	In Liquid		PVP (chem) psia	PVP (Solvent) psia	TVP (Soln) psia	lb / lb mol air	lb/ cu.ft.air	mg/ cu.meter
						X(chem)	X(solvent)						
	Column ID →	D	E	R	S	T	U	V	W	X	Y	Z	AA
124-18-5	Decane	142.29	6.09	0.0190	75%	0.7282	0.2718	0.0138	0.0255	0.0394	0.134	0.00035	5641.85
112-40-3	Dodecane	170	6.25	0.0190	75%	0.6916	0.3084	0.0131	0.0290	0.0421	0.152	0.00040	6401.72
1120-21-4	Undecane	156.35	6.18	0.0190	75%	0.7092	0.2908	0.0135	0.0273	0.0408	0.143	0.00038	6037.20
95-47-6	1,2 dimethyle benzene	106.17	7.35	0.0711	75%	0.7822	0.2178	0.0556	0.0205	0.0761	0.401	0.00106	16911.41
78-93-3	2, BUTANINE	72.1	6.75	1.1990	75%	0.8410	0.1590	1.0083	0.0149	1.0233	4.946	0.01301	208336.54
108-10-1	4 methyl 2 pentanone	100.2	6.68	0.2120	75%	0.7919	0.2081	0.1679	0.0196	0.1874	1.144	0.00301	48205.49
67-64-1	ACETONE	58.08	6.63	2.8620	75%	0.8678	0.1322	2.4836	0.0124	2.4961	9.813	0.02581	413380.81
108-90-7	CHLORO BENZENE	112.6	9.24	0.1335	75%	0.7720	0.2280	0.1030	0.0214	0.1245	0.789	0.00208	33243.67
100-82-7	CYCLOHEXANE	84.16	6.52	1.2180	75%	0.8192	0.1808	0.9977	0.0170	1.0147	5.712	0.01502	240636.60
64-17-5	ETHANOL	46.07	6.61	0.6190	75%	0.8922	0.1078	0.5523	0.0101	0.5624	1.731	0.00455	72912.31
141-78-6	ETHYL ACETATE	88.1	7.55	1.1020	75%	0.8123	0.1877	0.8951	0.0176	0.9128	5.365	0.01411	225998.20
100-41-4	ETHYL BENZENE	106.17	7.23	0.1085	75%	0.7822	0.2178	0.0849	0.0205	0.1054	0.613	0.00161	25828.56
142-82-5	HEPTANE	100.2	5.73	0.5410	75%	0.7919	0.2081	0.4284	0.0196	0.4480	2.920	0.00768	123014.94
110-54-3	HEXANE	86.17	5.53	1.8760	75%	0.8156	0.1844	1.5301	0.0173	1.5475	8.970	0.02359	377855.70
78-83-1	ISOBUTYL ALCOHOL	74.12	6.71	0.1350	75%	0.8372	0.1628	0.1130	0.0153	0.1283	0.570	0.00150	24007.63
67-63-0	ISOPROPYL ALCOHOL	60.09	6.57	0.4830	75%	0.8638	0.1362	0.4172	0.0128	0.4300	1.706	0.00449	71849.03
67-56-1	METHANOL	32.04	6.63	1.4120	75%	0.9225	0.0775	1.3025	0.0073	1.3098	2.839	0.00747	119596.33
8030-30-6	NAPHTHA	127.08	7.32	0.0940	75%	0.7500	0.2500	0.0705	0.0235	0.0940	0.609	0.00160	25674.55
111-65-9	OCTANE	114.23	5.87	0.0193	75%	0.7695	0.2305	0.0149	0.0217	0.0366	0.116	0.00030	4870.65
8052-41-3	STODDARD SOLVENT	127.08	8.34	0.0940	75%	0.7500	0.2500	0.0705	0.0235	0.0940	0.609	0.00160	25674.55
108-88-3	TOLUENE	92.13	7.26	0.3090	75%	0.8054	0.1946	0.2489	0.0183	0.2672	1.560	0.00410	65704.31
8006-64-2	TURPENTINE	136	7.17	0.5610	75%	0.7371	0.2629	0.4135	0.0247	0.4382	3.826	0.01006	161155.35
1330-20-7	XYLENES	106.17	7.24	0.1295	75%	0.7822	0.2178	0.1013	0.0205	0.1217	0.731	0.00192	30808.08
611-14-3	1 ethyl 2 methyl benzene	120.2	7.35	0.1900	10%	0.1051	0.8949	0.0200	0.0841	0.1041	0.163	0.00043	6880.00
108-67-8	1,3,5 trimethyl benzene	120.21	7.21	0.0390	10%	0.1051	0.8949	0.0041	0.0841	0.0882	0.034	0.00009	1412.22
584-94-1	2,3 dimethyl hexane	114.23	5.94	0.3700	10%	0.1100	0.8900	0.0407	0.0837	0.1244	0.316	0.00083	13324.70
589-34-4	3 methyl hexane	120.21	5.72	1.1500	10%	0.1051	0.8949	0.1209	0.0841	0.2050	0.989	0.00260	41642.49
96-14-0	3 methyl pentane	86.18	5.54	1.9300	10%	0.1408	0.8592	0.2717	0.0808	0.3525	1.593	0.00419	67101.80
103-65-1	propyl benzene	120.21	7.19	0.1930	10%	0.1051	0.8949	0.0203	0.0841	0.1044	0.166	0.00044	6988.70
75-34-3	1,1 DICHLOROETHANE	98.97	9.86	2.9010	10%	0.1249	0.8751	0.3622	0.0823	0.4445	2.439	0.00641	102730.26
540-59-0	1,1 DICHLOROETHYLENE	96.95	10.76	2.6680	10%	0.1271	0.8729	0.3392	0.0821	0.4212	2.237	0.00588	94234.11
71-55-6	1,1,1 TRICHLOROETHANE	133.42	11.22	1.5860	10%	0.0957	0.9043	0.1518	0.0850	0.2368	1.378	0.00362	58034.42
630-20-6	1,1,1,2 TETRACHLOROETHANE	167.85	13.34	0.1324	10%	0.0776	0.9224	0.0103	0.0867	0.0970	0.117	0.00031	4940.41
76-13-1	1,1,2 TRICHLORO 1,2,2 TRIFLUOROETHANE	187.38	13.18	4.3761	10%	0.0701	0.9299	0.3066	0.0874	0.3941	3.909	0.01028	164665.32
79-00-5	1,1,2 TRICHLOROETHANE	133.4	11.16	0.2450	10%	0.0957	0.9043	0.0235	0.0850	0.1085	0.213	0.00056	8965.75
79-34-5	1,1,2,2 TETRACHLOROETHANE	167.85	13.24	0.0431	10%	0.0776	0.9224	0.0033	0.0867	0.0900	0.038	0.00010	1607.34
107-06-2	1,2 DICHLOROETHANE	98.97	10.5	1.0250	10%	0.1249	0.8751	0.1280	0.0823	0.2102	0.862	0.00227	36297.32
111-76-2	2 BUTOXYETHANOL	118.2	7.52	0.0740	10%	0.1067	0.8933	0.0079	0.0840	0.0919	0.063	0.00017	2674.82
110-80-5	2 ETHOXYETHANOL	90.14	7.81	5.8030	10%	0.1354	0.8646	0.7859	0.0813	0.8672	4.819	0.01268	203012.92
111-15-9	2 ETHOXYETHYL ACETATE	132.18	8.13	0.0230	10%	0.0965	0.9035	0.0022	0.0849	0.0871	0.020	0.00005	840.85
591-78-6	2 HEXANONE	100.18	6.92	0.1930	10%	0.1235	0.8765	0.0238	0.0824	0.1062	0.162	0.00043	6844.84

Table 4  
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Chicago Facility  
Conc. of Chemical in Vapors at Saturation

CAS Number	Constituent	Mol. Wt.	Density lb/gal	Vapor Press. psia	Conc. by wt. %	Mole Fraction In Liquid		Partial Pressure			Saturated Conc. of Chemical		
						X(chem)	X(solvent)	PVP (chem) psia	PVP (Solvent) psia	TVP (Soln) psia	lb / lb mol air	lb/ cu.ft. air	mg/ cu. meter
						T	U	V	W	X	Y	Z	AA
	Column ID ->	D	E	R	S								
110-49-6	2 METHOXYETHYL ACETATE	118.13	8.38	0.0392	10%	0.1068	0.8932	0.0042	0.0840	0.0881	0.034	0.00009	1416.84
95-48-7	2 methylphenol	108.14	8.74	0.0018	10%	0.1155	0.8845	0.0002	0.0831	0.0834	0.002	0.00000	64.24
109-86-4	2 METHOXYETHANOL	76.11	8.06	0.1200	10%	0.1565	0.8435	0.0188	0.0793	0.0981	0.097	0.00026	4095.84
106-44-5	4 methylphenol	108.1	8.63	0.0006	10%	0.1155	0.8845	0.0001	0.0831	0.0832	0.001	0.00000	22.76
98-83-9	A METHYL STYRENE	118	7.59	0.0244	10%	0.1069	0.8931	0.0026	0.0840	0.0866	0.021	0.00006	881.92
75-07-0	ACETALDEHYDE	44	6.58	12.1839	10%	0.2429	0.7571	2.9600	0.0712	3.0312	8.860	0.02330	373236.13
64-19-07	ACETIC ACID	60.05	8.79	0.1687	10%	0.1904	0.8096	0.0321	0.0761	0.1082	0.131	0.00035	5528.18
75-5-8	ACETONITRILE	41.05	6.56	1.0830	10%	0.2559	0.7441	0.2772	0.0699	0.3471	0.774	0.00204	32606.93
71-43-2	BENZENE	78.11	7.37	1.1600	10%	0.1531	0.8469	0.1776	0.0796	0.2572	0.944	0.00248	39752.43
117-81-7	bis(2 ethylhexyl)phthalate	390.54	8.23	0.0250	10%	0.0349	0.9651	0.0009	0.0907	0.0916	0.023	0.00006	976.31
56-23-5	CARBON TETRACHLORIDE	153.84	13.37	1.4120	10%	0.0841	0.9159	0.1187	0.0861	0.2048	1.242	0.00327	52332.25
67-66-3	CHLOROFORM	119.39	12.49	2.4750	10%	0.1058	0.8942	0.2618	0.0841	0.3458	2.126	0.00559	89557.23
1319-77-3	CRESOL	108.13	8.76	0.0080	10%	0.1155	0.8845	0.0009	0.0831	0.0841	0.007	0.00002	286.32
98-82-8	CUMENE	120.2	7.21	0.0511	10%	0.1051	0.8949	0.0054	0.0841	0.0895	0.044	0.00012	1851.05
108-93-0	CYCLOHEXANOL	100.2	8.03	0.0017	10%	0.1235	0.8765	0.0002	0.0824	0.0826	0.001	0.00000	58.87
108-94-1	CYCLOHEXANONE	98.2	7.91	0.0550	10%	0.1257	0.8743	0.0069	0.0822	0.0891	0.046	0.00012	1944.69
110-83-8	CYCLOHEXENE	82.15	6.76	3.0950	10%	0.1467	0.8533	0.4539	0.0802	0.5342	2.537	0.00667	106868.21
542-92-7	Cyclopentadiene	66.1	6.69	7.6000	10%	0.1760	0.8240	1.3377	0.0775	1.4152	6.015	0.01582	253398.29
84-74-2	di n butylphthalate	278.38	8.34	0.0010	10%	0.0483	0.9517	0.0000	0.0895	0.0895	0.001	0.00000	38.51
117-84-0	di n octylphthalate	390.54	8.23	0.0250	10%	0.0349	0.9651	0.0009	0.0907	0.0916	0.023	0.00006	976.31
108-83-8	DIISOBUTYL KETONE	142.23	6.72	0.0350	10%	0.0903	0.9097	0.0032	0.0855	0.0887	0.031	0.00008	1288.35
68-12-2	DIMETHYL FORMAMIDE	73.09	7.58	0.0404	10%	0.1619	0.8381	0.0065	0.0788	0.0853	0.032	0.00009	1369.06
131-11-3	dimethylphthalate	194.2	9.97	0.0190	10%	0.0678	0.9322	0.0013	0.0876	0.0889	0.017	0.00004	716.71
123-91-1	DIOXANE	88.1	8.66	0.4250	10%	0.1381	0.8619	0.0587	0.0810	0.1397	0.352	0.00093	14821.78
541-85-5	ETHYL AMYL KETONE	128.24	6.86	0.0190	10%	0.0992	0.9008	0.0019	0.0847	0.0866	0.016	0.00004	692.56
106-35-4	ETHYL BUTYL KETONE	114.21	6.84	0.0190	10%	0.1100	0.8900	0.0021	0.0837	0.0857	0.016	0.00004	684.23
60-29-7	ETHYL ETHER	74.12	5.99	7.0190	10%	0.1600	0.8400	1.1232	0.0790	1.2021	5.663	0.01490	238570.33
56-81-5	GLYCERIN	92.11	10.51	0.0001	10%	0.1329	0.8671	0.0000	0.0815	0.0815	0.000	0.00000	1.75
67-72-1	HEXACHLOROETHANE	236.72	17.44	0.0190	10%	0.0563	0.9437	0.0011	0.0887	0.0898	0.017	0.00005	725.54
123-92-2	ISOAMYL ACETATE	130.18	7.31	0.7370	10%	0.0979	0.9021	0.0721	0.0848	0.1569	0.639	0.00168	26903.99
123-51-3	ISOAMYL ALCOHOL	88.15	6.76	0.0300	10%	0.1381	0.8619	0.0041	0.0810	0.0852	0.025	0.00007	1046.32
110-19-0	ISOBUTYL ACETATE	116.16	7.27	0.1880	10%	0.1084	0.8916	0.0204	0.0838	0.1042	0.161	0.00042	6782.78
78-59-1	ISOPHORONE	138.2	7.68	0.0650	10%	0.0927	0.9073	0.0060	0.0853	0.0913	0.057	0.00015	2386.36
108-21-4	ISOPROPYL ACETATE	102.15	7.29	0.6290	10%	0.1214	0.8786	0.0764	0.0826	0.1590	0.531	0.00140	22361.07
79-20-9	METHYL ACETATE	74.08	7.83	2.7460	10%	0.1601	0.8399	0.4396	0.0790	0.5186	2.215	0.00583	93326.33
108-11-2	METHYL AMYL ALCOHOL	102.18	6.73	0.0730	10%	0.1214	0.8786	0.0089	0.0826	0.0915	0.062	0.00016	2595.26
110-43-0	METHYL N AMYL KETONE	114.21	6.84	0.0190	10%	0.1100	0.8900	0.0021	0.0837	0.0857	0.016	0.00004	684.23
107-87-9	METHYL PROPYL KETONE	86.15	6.7	0.1900	10%	0.1408	0.8592	0.0268	0.0808	0.1075	0.157	0.00041	6605.55
75-09-2	METHYLENE CHLORIDE	84.94	11.12	5.4340	10%	0.1425	0.8575	0.7746	0.0806	0.8552	4.476	0.01177	188540.59
123-86-4	N BUTYL ACETATE	116.18	7.34	0.2900	10%	0.1084	0.8916	0.0314	0.0838	0.1152	0.248	0.00065	10463.00
71-36-3	N BUTYL ALCOHOL	74.12	6.76	0.0565	10%	0.1600	0.8400	0.0090	0.0790	0.0880	0.046	0.00012	1921.61
98-95-3	NITROBENZENE	123.1	10.06	0.0023	10%	0.1029	0.8971	0.0002	0.0843	0.0846	0.002	0.00001	84.25
109-66-0	PENTANE	72.015	5.25	6.8280	10%	0.0002	0.9998	0.0013	0.0940	0.0953	6.557	0.01725	276235.60
108-95-2	PHENOL	94.11	8.83	0.0120	10%	0.1305	0.8695	0.0016	0.0817	0.0833	0.010	0.00003	422.22

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1/17/00

Chicago Facility  
Conc. of Chemical in Vapors at Saturation

CAS Number	Constituent	Mol. Wt.	Density lb/gal	Vapor Press. psia	Conc. by wt. %	Mole Fraction In Liquid		Partial Pressure			Saturated Conc. of Chemical		
						X(chem)	X(solvent)	PVP (chem) psia	PVP (Solvent) psia	TVP (Soln) psia	lb / lb mol air	lb/ cu.ft.air	mg/ cu.meter
	Column ID -->	D	E	R	S	T	U	V	W	X	Y	Z	AA
105-46-4	SEC BUTYL ACETATE	116.18	7.21	0.3010	10%	0.1084	0.8916	0.0326	0.0838	0.1164	0.258	0.00068	10859.87
78-92-2	SEC BUTYL ALCOHOL	74.12	6.73	0.1710	10%	0.1600	0.8400	0.0274	0.0790	0.1063	0.138	0.00036	5812.16
100-42-5	STYRENE	104.15	7.56	0.0718	10%	0.1194	0.8806	0.0086	0.0828	0.0914	0.061	0.00016	2559.04
75-65-0	TERT BUTYL ALCOHOL	74.12	6.6	0.4250	10%	0.1600	0.8400	0.0680	0.0790	0.1470	0.343	0.00090	14445.42
127-18-4	TETRACHLOROETHYLENE	165.83	13.55	0.2071	10%	0.0785	0.9215	0.0162	0.0866	0.1029	0.183	0.00048	7721.58
109-99-9	TETRAHYDROFURAN	72.12	7.42	2.0322	10%	0.1637	0.8363	0.3327	0.0786	0.4113	1.632	0.00429	68766.04
156-60-5	TRANS 1,2 DICHLOROETHYLENE	96.95	10.52	4.3510	10%	0.1271	0.8729	0.5531	0.0821	0.6352	3.648	0.00959	153677.90
79-01-6	TRICHLOROETHYLENE	131.4	12.27	0.8890	10%	0.0970	0.9030	0.0863	0.0849	0.1711	0.771	0.00203	32482.22
na	1,1' oxybis(2 methoxy) ethane	134.12	7.88	0.0410	10%	0.0953	0.9047	0.0039	0.0850	0.0890	0.036	0.00009	1501.01
78-87-5	1,2 DICHLOROPROPANE	112.99	9.67	0.6360	1%	0.0112	0.9888	0.0071	0.0929	0.1001	0.055	0.00014	2313.29
79-46-9	2 NITROPROPANE*	89.09	8.26	0.2370	1%	0.0142	0.9858	0.0034	0.0927	0.0960	0.020	0.00005	859.44
107-02-8	acrolein	56.1	7.03	5.5370	1%	0.0224	0.9776	0.1239	0.0919	0.2158	0.473	0.00124	19912.60
107-13-1	ACRYLONITRILE*	53.06	6.76	1.3730	1%	0.0236	0.9764	0.0324	0.0918	0.1242	0.117	0.00031	4931.37
107-18-6	ALLYL ALCOHOL	76.53	7.13	0.2610	1%	0.0165	0.9835	0.0043	0.0924	0.0968	0.022	0.00006	944.27
107-05-1	Allyl Chloride	56.53	7.86	4.7970	1%	0.0222	0.9778	0.1065	0.0919	0.1984	0.410	0.00108	17254.29
62-53-3	Aniline	93.1	8.53	0.0062	1%	0.0136	0.9864	0.0001	0.0927	0.0928	0.001	0.00000	22.52
91-59-8	b NAPHTHALAMINE*	143.2	8.85	0.0190	1%	0.0089	0.9911	0.0002	0.0932	0.0933	0.002	0.00000	69.27
542-88-1	BIS (CHLOROMETHYL) ETHER*	114.96	10.7	1.1600	1%	0.0110	0.9890	0.0128	0.0930	0.1058	0.100	0.00026	4220.02
106-99-0	BUTADIENE*	54.1	5.18	14.6900	1%	0.0232	0.9768	0.3405	0.0918	0.4323	1.253	0.00330	52785.69
75-15-0	CARBON DISULFIDE*	76.13	10.59	4.8340	1%	0.0166	0.9834	0.0802	0.0924	0.1726	0.415	0.00109	17487.33
142-40-3	DIMETHYLAMINE	45.08	5.6	13.1600	1%	0.0277	0.9723	0.3644	0.0914	0.4557	1.117	0.00294	47069.64
50-00-00	FORMALDEHYDE*	30.03	8.34	0.0280	1%	0.0410	0.9590	0.0011	0.0901	0.0913	0.002	0.00001	98.78
77-47-4	hexachlorocyclopentadiene	272.7	14.26	0.1800	1%	0.0047	0.9953	0.0008	0.0936	0.0944	0.016	0.00004	659.04
302-01-2	hydrazine*	32.05	8.41	0.1570	1%	0.0385	0.9615	0.0060	0.0904	0.0964	0.013	0.00003	555.29
60-34-4	methylhydrazine	46.09	7.29	0.5660	1%	0.0271	0.9729	0.0153	0.0915	0.1068	0.048	0.00013	2025.65
57-14-7	1,1 dimethylhydrazine	60.1	7.88	1.8949	1%	0.0209	0.9791	0.0396	0.0920	0.1317	0.162	0.00043	6824.88
75-01-4	vinyl chloride	62.5	8.08	14.6900	1%	0.0201	0.9799	0.2956	0.0921	0.3877	1.257	0.00331	52950.63
62-75-9	N nitrosodimethylamine	74.1	8.38	1.1600	1%	0.0170	0.9830	0.0198	0.0924	0.1122	0.100	0.00026	4194.48
74-90-8	hydrogen cyanide	27.03	5.77	9.5140	1%	0.0453	0.9547	0.4313	0.0897	0.5211	0.793	0.00209	33411.21
108-03-2	1 NITROPROPANE	89.09	8.29	0.1101	1%	0.0142	0.9858	0.0016	0.0927	0.0942	0.009	0.00002	399.26
71-41-0	1 pentanol	88.15	6.81	0.0202	1%	0.0144	0.9856	0.0003	0.0927	0.0929	0.002	0.00000	73.24
95-57-8	2 chlorophenol	128.56	10.49	0.0130	1%	0.0099	0.9901	0.0001	0.0931	0.0932	0.001	0.00000	47.35
91-57-6	2 methylnapthalene	142.2	8.5	0.0006	1%	0.0089	0.9911	0.0000	0.0932	0.0932	0.000	0.00000	2.19
109-89-7	DIETHYLAMINE	73.14	5.9	2.7158	1%	0.0172	0.9828	0.0468	0.0924	0.1392	0.233	0.00061	9817.94
79-10-7	acrylic acid	72.06	8.86	1.3436	1%	0.0175	0.9825	0.0235	0.0924	0.1159	0.115	0.00030	4856.02
83-32-9	acenaphthene	154.21	8.34	0.0002	1%	0.0083	0.9917	0.0000	0.0932	0.0932	0.000	0.00000	0.73
75-00-3	CHLOROETHANE	64.52	7.45	2.7101	1%	0.0195	0.9805	0.0529	0.0922	0.1450	0.232	0.00061	9774.81
74-87-3	CHLOROMETHANE	50.49	8	0.3415	1%	0.0248	0.9752	0.0085	0.0917	0.1001	0.029	0.00008	1225.08

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CAS Number	Constituent	In displacement air			Rate cfm	Oper. hrs	Loading lb chem	Rate cfm	Oper. hrs	Loading lb chem	per day cfm	to Carbon per day
		lb / lb mol air	lb/ cu.ft.air	mg/ cu.meter								
	Column ID -->	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI
124-18-5	Decane	0.134	0.00035	5641.85	75	3.5	5.55	40	20.5	17.33	45.10	22.88
112-40-3	Dodecane	0.152	0.00040	6401.72	75	3.5	6.30	40	20.5	19.66	45.10	25.96
1120-21-4	Undecane	0.143	0.00038	6037.20	75	3.5	5.94	40	20.5	18.55	45.10	24.48
95-47-6	1,2 dimethyle benzene	0.401	0.00106	16911.41	75	3.5	16.63	40	20.5	51.95	45.10	68.58
78-93-3	2, BUTANINE	4.946	0.01301	208336.54	75	3.5	204.87	40	20.5	639.97	45.10	844.84
108-10-1	4 methyl 2 pentanone	1.144	0.00301	48205.49	75	3.5	47.40	40	20.5	148.08	45.10	195.48
67-64-1	ACETONE	9.813	0.02581	413380.81	75	3.5	406.50	40	20.5	1269.83	45.10	1676.33
108-90-7	CHLOROBENZENE	0.789	0.00208	33243.67	75	3.5	32.69	40	20.5	102.12	45.10	134.81
100-82-7	CYCLOHEXANE	5.712	0.01502	240636.60	75	3.5	236.63	40	20.5	739.19	45.10	975.82
64-17-5	ETHANOL	1.731	0.00455	72912.31	75	3.5	71.70	40	20.5	223.97	45.10	295.67
141-78-6	ETHYL ACETATE	5.365	0.01411	225998.20	75	3.5	222.24	40	20.5	694.22	45.10	916.46
100-41-4	ETHYL BENZENE	0.613	0.00161	25828.56	75	3.5	25.40	40	20.5	79.34	45.10	104.74
142-82-5	HEPTANE	2.920	0.00768	123014.94	75	3.5	120.97	40	20.5	377.88	45.10	498.85
110-54-3	HEXANE	8.970	0.02359	377855.70	75	3.5	371.57	40	20.5	1160.70	45.10	1532.27
78-83-1	ISOBUTYL ALCOHOL	0.570	0.00150	24007.63	75	3.5	23.61	40	20.5	73.75	45.10	97.36
67-63-0	ISOPROPYL ALCOHOL	1.706	0.00449	71849.03	75	3.5	70.65	40	20.5	220.71	45.10	291.36
67-56-1	METHANOL	2.839	0.00747	119596.33	75	3.5	117.61	40	20.5	367.38	45.10	484.98
8030-30-6	NAPHTHA	0.609	0.00160	25674.55	75	3.5	25.25	40	20.5	78.87	45.10	104.11
111-65-9	OCTANE	0.116	0.00030	4870.65	75	3.5	4.79	40	20.5	14.96	45.10	19.75
8052-41-3	STODDARD SOLVENT	0.609	0.00160	25674.55	75	3.5	25.25	40	20.5	78.87	45.10	104.11
108-88-3	TOLUENE	1.560	0.00410	65704.31	75	3.5	64.61	40	20.5	201.83	45.10	266.44
8006-64-2	TURPENTINE	3.826	0.01006	161155.35	75	3.5	158.47	40	20.5	495.04	45.10	653.51
1330-20-7	XYLENES	0.731	0.00192	30808.08	75	3.5	30.30	40	20.5	94.64	45.10	124.93
611-14-3	1 ethyl 2 methyl benzene	0.163	0.00043	6880.00	75	3.5	6.77	40	20.5	21.13	45.10	27.90
108-67-8	1,3,5 trimethyl benzene	0.034	0.00009	1412.22	75	3.5	1.39	40	20.5	4.34	45.10	5.73
584-94-1	2,3 dimethyl hexane	0.316	0.00083	13324.70	75	3.5	13.10	40	20.5	40.93	45.10	54.03
589-34-4	3 methyl hexane	0.989	0.00260	41642.49	75	3.5	40.95	40	20.5	127.92	45.10	168.87
96-14-0	3 methyl pentane	1.593	0.00419	67101.80	75	3.5	65.98	40	20.5	206.12	45.10	272.11
103-65-1	propyl benzene	0.166	0.00044	6988.70	75	3.5	6.87	40	20.5	21.47	45.10	28.34
75-34-3	1,1 DICHLOROETHANE	2.439	0.00641	102730.26	75	3.5	101.02	40	20.5	315.57	45.10	416.59
540-59-0	1,1 DICHLOROETHYLENE	2.237	0.00588	94234.11	75	3.5	92.67	40	20.5	289.47	45.10	382.14
71-55-6	1,1,1 TRICHLOROETHANE	1.378	0.00362	58034.42	75	3.5	57.07	40	20.5	178.27	45.10	235.34

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OS Number	Constituent	lb / lb mol air	lb/ cu.ft.air	mg/ cu.meter	Rate cfm	Oper. hrs	Loading lb chem	Rate cfm	Oper. hrs	Loading lb chem	per day cfm	to Carbon per day
	Column ID -->	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI
630-20-6	1,1,1,2 TETRACHLOROETHANE	0.117	0.00031	4940.41	75	3.5	4.86	40	20.5	15.18	45.10	20.03
76-13-1	1,1,2 TRICHLORO 1,2,2 TRIFLUOROETHANE	3.909	0.01028	164665.32	75	3.5	161.92	40	20.5	505.82	45.10	667.75
79-00-5	1,1,2 TRICHLOROETHANE	0.213	0.00056	8965.75	75	3.5	8.82	40	20.5	27.54	45.10	36.36
79-34-5	1,1,2,2 TETRACHLOROETHANE	0.038	0.00010	1607.34	75	3.5	1.58	40	20.5	4.94	45.10	6.52
107-06-2	1,2 DICHLOROETHANE	0.862	0.00227	36297.32	75	3.5	35.69	40	20.5	111.50	45.10	147.19
111-76-2	2 BUTOXYETHANOL	0.063	0.00017	2674.82	75	3.5	2.63	40	20.5	8.22	45.10	10.85
110-80-5	2 ETHOXYETHANOL	4.819	0.01268	203012.92	75	3.5	199.63	40	20.5	623.62	45.10	823.25
111-15-9	2 ETHOXYETHYL ACETATE	0.020	0.00005	840.85	75	3.5	0.83	40	20.5	2.58	45.10	3.41
591-78-6	2 HEXANONE	0.162	0.00043	6844.84	75	3.5	6.73	40	20.5	21.03	45.10	27.76
110-49-6	2 METHOXYETHYL ACETATE	0.034	0.00009	1416.84	75	3.5	1.39	40	20.5	4.35	45.10	5.75
95-48-7	2 methylphenol	0.002	0.00000	64.24	75	3.5	0.06	40	20.5	0.20	45.10	0.26
109-86-4	2 METHOXYETHANOL	0.097	0.00026	4095.84	75	3.5	4.03	40	20.5	12.58	45.10	16.61
106-44-5	4 methylphenol	0.001	0.00000	22.76	75	3.5	0.02	40	20.5	0.07	45.10	0.09
98-83-9	A METHYL STYRENE	0.021	0.00006	881.92	75	3.5	0.87	40	20.5	2.71	45.10	3.58
75-07-0	ACETALDEHYDE	8.860	0.02330	373236.13	75	3.5	367.02	40	20.5	1146.51	45.10	1513.54
64-19-07	ACETIC ACID	0.131	0.00035	5528.18	75	3.5	5.44	40	20.5	16.98	45.10	22.42
75-5-8	ACETONITRILE	0.774	0.00204	32606.93	75	3.5	32.06	40	20.5	100.16	45.10	132.23
71-43-2	BENZENE	0.944	0.00248	39752.43	75	3.5	39.09	40	20.5	122.11	45.10	161.20
117-81-7	bis(2 ethylhexyl)phthalate	0.023	0.00006	976.31	75	3.5	0.96	40	20.5	3.00	45.10	3.96
56-23-5	CARBON TETRACHLORIDE	1.242	0.00327	52332.25	75	3.5	51.46	40	20.5	160.75	45.10	212.22
67-66-3	CHLOROFORM	2.126	0.00559	89557.23	75	3.5	88.07	40	20.5	275.10	45.10	363.17
1319-77-3	CRESOL	0.007	0.00002	286.32	75	3.5	0.28	40	20.5	0.88	45.10	1.16
98-82-8	CUMENE	0.044	0.00012	1851.05	75	3.5	1.82	40	20.5	5.69	45.10	7.51
108-93-0	CYCLOHEXANOL	0.001	0.00000	58.87	75	3.5	0.06	40	20.5	0.18	45.10	0.24
108-94-1	CYCLOHEXANONE	0.046	0.00012	1944.69	75	3.5	1.91	40	20.5	5.97	45.10	7.89
110-83-8	CYCLOHEXENE	2.537	0.00667	106868.21	75	3.5	105.09	40	20.5	328.28	45.10	433.37
542-92-7	Cyclopentadiene	6.015	0.01582	253398.29	75	3.5	249.18	40	20.5	778.39	45.10	1027.57
84-74-2	di n butylphthalate	0.001	0.00000	38.51	75	3.5	0.04	40	20.5	0.12	45.10	0.16
117-84-0	di n octylphthalate	0.023	0.00006	976.31	75	3.5	0.96	40	20.5	3.00	45.10	3.96
108-83-8	DIISOBUTYL KETONE	0.031	0.00008	1288.35	75	3.5	1.27	40	20.5	3.96	45.10	5.22
68-12-2	DIMETHYL FORMAMIDE	0.032	0.00009	1369.06	75	3.5	1.35	40	20.5	4.21	45.10	5.55
131-11-3	dimethylphthalate	0.017	0.00004	716.71	75	3.5	0.70	40	20.5	2.20	45.10	2.91
123-91-1	DIOXANE	0.352	0.00093	14821.78	75	3.5	14.58	40	20.5	45.53	45.10	60.10
541-85-5	ETHYL AMYL KETONE	0.016	0.00004	692.56	75	3.5	0.68	40	20.5	2.13	45.10	2.81
106-35-4	ETHYL BUTYL KETONE	0.016	0.00004	684.23	75	3.5	0.67	40	20.5	2.10	45.10	2.77

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Chicago Facility  
Vent Rate

Tank Farm and Metal Wash System

CAS Number	Constituent	Saturated Conc. of Chemical in displacement air			Peak Operation			Off Peak Operation			Average Vent Rate per day cfm	Total Loading to Carbon per day
		lb / lb mol air	lb/ cu.ft.air	mg/ cu.meter	Vent Rate cfm	Hrs. of Oper. hrs	Total Loading lb chem	Vent Rate cfm	Hrs. of Oper. hrs	Total Loading lb chem		
	Column ID -->	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI
60-29-7	ETHYL ETHER	5.663	0.01490	238570.33	75	3.5	234.60	40	20.5	732.84	45.10	967.44
56-81-5	GLYCERIN	0.000	0.00000	1.75	75	3.5	0.00	40	20.5	0.01	45.10	0.01
67-72-1	HEXACHLOROETHANE	0.017	0.00005	725.54	75	3.5	0.71	40	20.5	2.23	45.10	2.94
123-92-2	ISOAMYL ACETATE	0.639	0.00168	26903.99	75	3.5	26.46	40	20.5	82.64	45.10	109.10
123-51-3	ISOAMYL ALCOHOL	0.025	0.00007	1046.32	75	3.5	1.03	40	20.5	3.21	45.10	4.24
110-19-0	ISOBUTYL ACETATE	0.161	0.00042	6782.78	75	3.5	6.67	40	20.5	20.84	45.10	27.51
78-59-1	ISOPHORONE	0.057	0.00015	2386.36	75	3.5	2.35	40	20.5	7.33	45.10	9.68
108-21-4	ISOPROPYL ACETATE	0.531	0.00140	22361.07	75	3.5	21.99	40	20.5	68.69	45.10	90.68
79-20-9	METHYL ACETATE	2.215	0.00583	93326.33	75	3.5	91.77	40	20.5	286.68	45.10	378.45
108-11-2	METHYL AMYL ALCOHOL	0.062	0.00016	2595.26	75	3.5	2.55	40	20.5	7.97	45.10	10.52
110-43-0	METHYL N AMYL KETONE	0.016	0.00004	684.23	75	3.5	0.67	40	20.5	2.10	45.10	2.77
107-87-9	METHYL PROPYL KETONE	0.157	0.00041	6605.55	75	3.5	6.50	40	20.5	20.29	45.10	26.79
75-09-2	METHYLENE CHLORIDE	4.476	0.01177	188540.59	75	3.5	185.40	40	20.5	579.16	45.10	764.56
123-86-4	N BUTYL ACETATE	0.248	0.00065	10463.00	75	3.5	10.29	40	20.5	32.14	45.10	42.43
71-36-3	N BUTYL ALCOHOL	0.046	0.00012	1921.61	75	3.5	1.89	40	20.5	5.90	45.10	7.79
98-95-3	NITROBENZENE	0.002	0.00001	84.25	75	3.5	0.08	40	20.5	0.26	45.10	0.34
109-66-0	PENTANE	6.557	0.01725	276235.60	75	3.5	271.64	40	20.5	848.54	45.10	1120.18
108-95-2	PHENOL	0.010	0.00003	422.22	75	3.5	0.42	40	20.5	1.30	45.10	1.71
105-46-4	SEC BUTYL ACETATE	0.258	0.00068	10859.87	75	3.5	10.68	40	20.5	33.36	45.10	44.04
78-92-2	SEC BUTYL ALCOHOL	0.138	0.00036	5812.16	75	3.5	5.72	40	20.5	17.85	45.10	23.57
100-42-5	STYRENE	0.061	0.00016	2559.04	75	3.5	2.52	40	20.5	7.86	45.10	10.38
75-65-0	TERT BUTYL ALCOHOL	0.343	0.00090	14445.42	75	3.5	14.20	40	20.5	44.37	45.10	58.58
127-18-4	TETRACHLOROETHYLENE	0.183	0.00048	7721.58	75	3.5	7.59	40	20.5	23.72	45.10	31.31
109-99-9	TETRAHYDROFURAN	1.632	0.00429	68766.04	75	3.5	67.62	40	20.5	211.24	45.10	278.86
156-60-5	TRANS 1,2 DICHLOROETHYLENE	3.648	0.00959	153677.90	75	3.5	151.12	40	20.5	472.07	45.10	623.19
79-01-6	TRICHLOROETHYLENE	0.771	0.00203	32482.22	75	3.5	31.94	40	20.5	99.78	45.10	131.72
na	1,1' oxybis(2 methoxy) ethane	0.036	0.00009	1501.01	75	3.5	1.48	40	20.5	4.61	45.10	6.09
78-87-5	1,2 DICHLOROPROPANE	0.055	0.00014	2313.29	75	3.5	2.27	40	20.5	7.11	45.10	9.38
79-46-9	2 NITROPROPANE*	0.020	0.00005	859.44	75	3.5	0.85	40	20.5	2.64	45.10	3.49
107-02-8	acrolein	0.473	0.00124	19912.60	75	3.5	19.58	40	20.5	61.17	45.10	80.75
107-13-1	ACRYLONITRILE*	0.117	0.00031	4931.37	75	3.5	4.85	40	20.5	15.15	45.10	20.00
107-18-6	ALLYL ALCOHOL	0.022	0.00006	944.27	75	3.5	0.93	40	20.5	2.90	45.10	3.83
107-05-1	Allyl Chloride	0.410	0.00108	17254.29	75	3.5	16.97	40	20.5	53.00	45.10	69.97
62-53-3	Aniline	0.001	0.00000	22.52	75	3.5	0.02	40	20.5	0.07	45.10	0.09

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Chicago Facility  
Vent Rate

Tank Farm and Metal Wash System

CAS Number	Constituent	Saturated Conc. of Chemical in displacement air			Peak Operation			Off Peak Operation			Average Vent Rate per day cfm	Total Loading to Carbon per day
		lb / lb mol air	lb/ cu.ft.air	mg/ cu.meter	Vent Rate cfm	Hrs. of Oper. hrs	Total Loading lb chem	Vent Rate cfm	Hrs. of Oper. hrs	Total Loading lb chem		
		Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI
	Column ID -->											
91-59-8	b NAPTHAYLAMINE*	0.002	0.00000	69.27	75	3.5	0.07	40	20.5	0.21	45.10	0.28
542-88-1	BIS (CHLOROMETHYL) ETHER*	0.100	0.00026	4220.02	75	3.5	4.15	40	20.5	12.96	45.10	17.11
106-99-0	BUTADIENE*	1.253	0.00330	52785.69	75	3.5	51.91	40	20.5	162.15	45.10	214.05
75-15-0	CARBON DISULFIDE*	0.415	0.00109	17487.33	75	3.5	17.20	40	20.5	53.72	45.10	70.91
142-40-3	DIMETHYLAMINE	1.117	0.00294	47069.64	75	3.5	46.29	40	20.5	144.59	45.10	190.88
50-00-00	FORMALDEHYDE*	0.002	0.00001	98.78	75	3.5	0.10	40	20.5	0.30	45.10	0.40
77-47-4	hexachlorocyclopentadiene	0.016	0.00004	659.04	75	3.5	0.65	40	20.5	2.02	45.10	2.67
302-01-2	hydrazine*	0.013	0.00003	555.29	75	3.5	0.55	40	20.5	1.71	45.10	2.25
60-34-4	methylhydrazine	0.048	0.00013	2025.65	75	3.5	1.99	40	20.5	6.22	45.10	8.21
57-14-7	1,1 dimethylhydrazine	0.162	0.00043	6824.88	75	3.5	6.71	40	20.5	20.96	45.10	27.68
75-01-4	vinyl chloride	1.257	0.00331	52950.63	75	3.5	52.07	40	20.5	162.65	45.10	214.72
62-75-9	N nitrosodimethylamine	0.100	0.00026	4194.48	75	3.5	4.12	40	20.5	12.88	45.10	17.01
74-90-8	hydrogen cyanide	0.793	0.00209	33411.21	75	3.5	32.86	40	20.5	102.63	45.10	135.49
108-03-2	1 NITROPROPANE	0.009	0.00002	399.26	75	3.5	0.39	40	20.5	1.23	45.10	1.62
71-41-0	1 pentanol	0.002	0.00000	73.24	75	3.5	0.07	40	20.5	0.22	45.10	0.30
95-57-8	2 chlorophenol	0.001	0.00000	47.35	75	3.5	0.05	40	20.5	0.15	45.10	0.19
91-57-6	2 methylnapthalene	0.000	0.00000	2.19	75	3.5	0.00	40	20.5	0.01	45.10	0.01
109-89-7	DIETHYLAMINE	0.233	0.00061	9817.94	75	3.5	9.65	40	20.5	30.16	45.10	39.81
79-10-7	acrylic acid	0.115	0.00030	4856.02	75	3.5	4.78	40	20.5	14.92	45.10	19.69
83-32-9	acenaphthene	0.000	0.00000	0.73	75	3.5	0.00	40	20.5	0.00	45.10	0.00
75-00-3	CHLOROETHANE	0.232	0.00061	9774.81	75	3.5	9.61	40	20.5	30.03	45.10	39.64
74-87-3	CHLOROMETHANE	0.029	0.00008	1225.08	75	3.5	1.20	40	20.5	3.76	45.10	4.97

Clean Harbors, Inc.  
Chicago Facility  
Vent Rate

Shredding Tower & Fuels Blending Operation

CAS Number	Constituent	Saturated Conc. of Chemical in displacement air			Peak Operation				
		lb / lb mol air	lb/ cu.ft.air	mg/ cu.meter	Disp. Rate cfm	Vent Rate cfm	Chem. Conc. at APCD, lb/cu.ft.air	Hrs. of Oper. hrs	Total Chem Loading lb/day
	Column ID -->	Y	Z	AA	AB	AC	AD	AE	AF
124-18-5	Decane	0.134	0.00035	5641.85	110	300	0.000129158	24	55.80
112-40-3	Dodecane	0.152	0.00040	6401.72	110	300	0.000146554	24	63.31
1120-21-4	Undecane	0.143	0.00038	6037.20	110	300	0.000138209	24	59.71
95-47-6	1,2 dimethyle benzene	0.401	0.00106	16911.41	110	300	0.000387152	24	167.25
78-93-3	2, BUTANINE	4.946	0.01301	208336.54	110	300	0.004769432	24	2060.39
108-10-1	4 methyl 2 pentanone	1.144	0.00301	48205.49	110	300	0.001103564	24	476.74
67-64-1	ACETONE	9.813	0.02581	413380.81	110	300	0.009463494	24	4088.23
108-90-7	CHLOROBENZENE	0.789	0.00208	33243.67	110	300	0.000761045	24	328.77
100-82-7	CYCLOHEXANE	5.712	0.01502	240636.60	110	300	0.005508875	24	2379.83
64-17-5	ETHANOL	1.731	0.00455	72912.31	110	300	0.001669176	24	721.08
141-78-6	ETHYL ACETATE	5.365	0.01411	225998.20	110	300	0.005173759	24	2235.06
100-41-4	ETHYL BENZENE	0.613	0.00161	25828.56	110	300	0.000591291	24	255.44
142-82-5	HEPTANE	2.920	0.00768	123014.94	110	300	0.002816171	24	1216.59
110-54-3	HEXANE	8.970	0.02359	377855.70	110	300	0.008650221	24	3736.90
78-83-1	ISOBUTYL ALCOHOL	0.570	0.00150	24007.63	110	300	0.000549605	24	237.43
67-63-0	ISOPROPYL ALCOHOL	1.706	0.00449	71849.03	110	300	0.001644834	24	710.57
67-56-1	METHANOL	2.839	0.00747	119596.33	110	300	0.002737909	24	1182.78
8030-30-6	NAPHTHA	0.609	0.00160	25674.55	110	300	0.000587766	24	253.91
111-65-9	OCTANE	0.116	0.00030	4870.65	110	300	0.000111503	24	48.17
8052-41-3	STODDARD SOLVENT	0.609	0.00160	25674.55	110	300	0.000587766	24	253.91
108-88-3	TOLUENE	1.560	0.00410	65704.31	110	300	0.001504164	24	649.80
8006-64-2	TURPENTINE	3.826	0.01006	161155.35	110	300	0.003689317	24	1593.78
1330-20-7	XYLENES	0.731	0.00192	30808.08	110	300	0.000705287	24	304.68
611-14-3	1 ethyl 2 methyl benzene	0.163	0.00043	6880.00	110	300	0.000157503	24	68.04
108-67-8	1,3,5 trimethyl benzene	0.034	0.00009	1412.22	110	300	3.23299E-05	24	13.97
584-94-1	2,3 dimethyl hexane	0.316	0.00083	13324.70	110	300	0.000305041	24	131.78
589-34-4	3 methyl hexane	0.989	0.00260	41642.49	110	300	0.000953318	24	411.83

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**Chicago Facility  
Vent Rate**

**Shredding Tower & Fuels Blending Operation**

CAS Number	Constituent	Saturated Conc. of Chemical in displacement air			Peak Operation				
		lb / lb mol air	lb/ cu.ft.air	mg/ cu.meter	Disp. Rate cfm	Vent Rate cfm	Chem. Conc. at APCD, lb/cu.ft.air	Hrs. of Oper. hrs	Total Chem Loading lb/day
	<i>Column ID --&gt;</i>	<i>Y</i>	<i>Z</i>	<i>AA</i>	<i>AB</i>	<i>AC</i>	<i>AD</i>	<i>AE</i>	<i>AF</i>
96-14-0	3 methyl pentane	1.593	0.00419	67101.80	110	300	0.001536156	24	663.62
103-65-1	propyl benzene	0.166	0.00044	6988.70	110	300	0.000159992	24	69.12
75-34-3	1,1 DICHLOROETHANE	2.439	0.00641	102730.26	110	300	0.002351796	24	1015.98
540-59-0	1,1 DICHLOROETHYLENE	2.237	0.00588	94234.11	110	300	0.002157294	24	931.95
71-55-6	1,1,1 TRICHLOROETHANE	1.378	0.00362	58034.42	110	300	0.001328577	24	573.95
630-20-6	1,1,1,2 TETRACHLOROETHANE	0.117	0.00031	4940.41	110	300	0.0001131	24	48.86
76-13-1	1,1,2 TRICHLORO 1,2,2 TRIFLUOROETHANE	3.909	0.01028	164665.32	110	300	0.00376967	24	1628.50
79-00-5	1,1,2 TRICHLOROETHANE	0.213	0.00056	8965.75	110	300	0.000205252	24	88.67
79-34-5	1,1,2,2 TETRACHLOROETHANE	0.038	0.00010	1607.34	110	300	3.67967E-05	24	15.90
107-06-2	1,2 DICHLOROETHANE	0.862	0.00227	36297.32	110	300	0.000830952	24	358.97
111-76-2	2 BUTOXYETHANOL	0.063	0.00017	2674.82	110	300	6.12345E-05	24	26.45
110-80-5	2 ETHOXYETHANOL	4.819	0.01268	203012.92	110	300	0.004647559	24	2007.75
111-15-9	2 ETHOXYETHYL ACETATE	0.020	0.00005	840.85	110	300	1.92496E-05	24	8.32
591-78-6	2 HEXANONE	0.162	0.00043	6844.84	110	300	0.000156698	24	67.69
110-49-6	2 METHOXYETHYL ACETATE	0.034	0.00009	1416.84	110	300	3.24357E-05	24	14.01
95-48-7	2 methylphenol	0.002	0.00000	64.24	110	300	1.47075E-06	24	0.64
109-86-4	2 METHOXYETHANOL	0.097	0.00026	4095.84	110	300	9.37658E-05	24	40.51
106-44-5	4 methylphenol	0.001	0.00000	22.76	110	300	5.2109E-07	24	0.23
98-83-9	A METHYL STYRENE	0.021	0.00006	881.92	110	300	2.01897E-05	24	8.72
75-07-0	ACETALDEHYDE	8.860	0.02330	373236.13	110	300	0.008544465	24	3691.21
64-19-07	ACETIC ACID	0.131	0.00035	5528.18	110	300	0.000126556	24	54.67
75-5-8	ACETONITRILE	0.774	0.00204	32606.93	110	300	0.000746468	24	322.47
71-43-2	BENZENE	0.944	0.00248	39752.43	110	300	0.000910049	24	393.14
117-81-7	bis(2 ethylhexyl)phthalate	0.023	0.00006	976.31	110	300	2.23505E-05	24	9.66
56-23-5	CARBON TETRACHLORIDE	1.242	0.00327	52332.25	110	300	0.001198038	24	517.55
67-66-3	CHLOROFORM	2.126	0.00559	89557.23	110	300	0.002050227	24	885.70
1319-77-3	CRESOL	0.007	0.00002	286.32	110	300	6.55481E-06	24	2.83
98-82-8	CUMENE	0.044	0.00012	1851.05	110	300	4.23759E-05	24	18.31
108-93-0	CYCLOHEXANOL	0.001	0.00000	58.87	110	300	1.3478E-06	24	0.58
108-94-1	CYCLOHEXANONE	0.046	0.00012	1944.69	110	300	4.45197E-05	24	19.23

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**Chicago Facility  
Vent Rate**

**Shredding Tower & Fuels Blending Operation**

CAS Number	Constituent	Saturated Conc. of Chemical in displacement air			Peak Operation				
		lb / lb mol air	lb/ cu.ft.air	mg/ cu.meter	Disp. Rate cfm	Vent Rate cfm	Chem. Conc. at APCD, lb/cu.ft.air	Hrs. of Oper. hrs	Total Chem Loading lb/day
	Column ID -->	Y	Z	AA	AB	AC	AD	AE	AF
110-83-8	CYCLOHEXENE	2.537	0.00667	106868.21	110	300	0.002446525	24	1056.90
542-92-7	Cyclopentadiene	6.015	0.01582	253398.29	110	300	0.005801027	24	2506.04
84-74-2	di n butylphthalate	0.001	0.00000	38.51	110	300	8.81627E-07	24	0.38
117-84-0	di n octylphthalate	0.023	0.00006	976.31	110	300	2.23505E-05	24	9.66
108-83-8	DIISOBUTYL KETONE	0.031	0.00008	1288.35	110	300	2.9494E-05	24	12.74
68-12-2	DIMETHYL FORMAMIDE	0.032	0.00009	1369.06	110	300	3.13417E-05	24	13.54
131-11-3	dimethylphthalate	0.017	0.00004	716.71	110	300	1.64076E-05	24	7.09
123-91-1	DIOXANE	0.352	0.00093	14821.78	110	300	0.000339314	24	146.58
541-85-5	ETHYL AMYL KETONE	0.016	0.00004	692.56	110	300	1.58548E-05	24	6.85
106-35-4	ETHYL BUTYL KETONE	0.016	0.00004	684.23	110	300	1.5664E-05	24	6.77
60-29-7	ETHYL ETHER	5.663	0.01490	238570.33	110	300	0.005461572	24	2359.40
56-81-5	GLYCERIN	0.000	0.00000	1.75	110	300	4.01608E-08	24	0.02
67-72-1	HEXACHLOROETHANE	0.017	0.00005	725.54	110	300	1.66098E-05	24	7.18
123-92-2	ISOAMYL ACETATE	0.639	0.00168	26903.99	110	300	0.000615911	24	266.07
123-51-3	ISOAMYL ALCOHOL	0.025	0.00007	1046.32	110	300	2.39534E-05	24	10.35
110-19-0	ISOBUTYL ACETATE	0.161	0.00042	6782.78	110	300	0.000155278	24	67.08
78-59-1	ISOPHORONE	0.057	0.00015	2386.36	110	300	5.46307E-05	24	23.60
108-21-4	ISOPROPYL ACETATE	0.531	0.00140	22361.07	110	300	0.00051191	24	221.15
79-20-9	METHYL ACETATE	2.215	0.00583	93326.33	110	300	0.002136512	24	922.97
108-11-2	METHYL AMYL ALCOHOL	0.062	0.00016	2595.26	110	300	5.9413E-05	24	25.67
110-43-0	METHYL N AMYL KETONE	0.016	0.00004	684.23	110	300	1.5664E-05	24	6.77
107-87-9	METHYL PROPYL KETONE	0.157	0.00041	6605.55	110	300	0.00015122	24	65.33
75-09-2	METHYLENE CHLORIDE	4.476	0.01177	188540.59	110	300	0.004316245	24	1864.62
123-86-4	N BUTYL ACETATE	0.248	0.00065	10463.00	110	300	0.000239529	24	103.48
71-36-3	N BUTYL ALCOHOL	0.046	0.00012	1921.61	110	300	4.39914E-05	24	19.00
98-95-3	NITROBENZENE	0.002	0.00001	84.25	110	300	1.9288E-06	24	0.83
109-66-0	PENTANE	6.557	0.01725	276235.60	110	300	0.00632384	24	2731.90
108-95-2	PHENOL	0.010	0.00003	422.22	110	300	9.66589E-06	24	4.18
105-46-4	SEC BUTYL ACETATE	0.258	0.00068	10859.87	110	300	0.000248614	24	107.40
78-92-2	SEC BUTYL ALCOHOL	0.138	0.00036	5812.16	110	300	0.000133057	24	57.48

Chicago Facility  
Vent Rate

Shredding Tower & Fuels Blending Operation

CAS Number	Constituent	Saturated Conc. of Chemical in displacement air			Peak Operation				
		lb / lb mol air	lb/ cu.ft.air	mg/ cu.meter	Disp. Rate cfm	Vent Rate cfm	Chem. Conc. at APCD, lb/cu.ft.air	Hrs. of Oper. hrs	Total Chem Loading lb/day
	Column ID -->	Y	Z	AA	AB	AC	AD	AE	AF
100-42-5	STYRENE	0.061	0.00016	2559.04	110	300	5.85839E-05	24	25.31
75-65-0	TERT BUTYL ALCOHOL	0.343	0.00090	14445.42	110	300	0.000330698	24	142.86
127-18-4	TETRACHLOROETHYLENE	0.183	0.00048	7721.58	110	300	0.000176769	24	76.36
109-99-9	TETRAHYDROFURAN	1.632	0.00429	68766.04	110	300	0.001574256	24	680.08
156-60-5	TRANS 1,2 DICHLOROETHYLENE	3.648	0.00959	153677.90	110	300	0.003518136	24	1519.83
79-01-6	TRICHLOROETHYLENE	0.771	0.00203	32482.22	110	300	0.000743613	24	321.24
na	1,1' oxybis(2 methoxy) ethane	0.036	0.00009	1501.01	110	300	3.43625E-05	24	14.84
78-87-5	1,2 DICHLOROPROPANE	0.055	0.00014	2313.29	110	300	5.29579E-05	24	22.88
79-46-9	2 NITROPROPANE*	0.020	0.00005	859.44	110	300	1.9675E-05	24	8.50
107-02-8	acrolein	0.473	0.00124	19912.60	110	300	0.000455858	24	196.93
107-13-1	ACRYLONITRILE*	0.117	0.00031	4931.37	110	300	0.000112893	24	48.77
107-18-6	ALLYL ALCOHOL	0.022	0.00006	944.27	110	300	2.1617E-05	24	9.34
107-05-1	Allyl Chloride	0.410	0.00108	17254.29	110	300	0.000395001	24	170.64
62-53-3	Aniline	0.001	0.00000	22.52	110	300	5.15602E-07	24	0.22
91-59-8	b NAPTHAYLAMINE*	0.002	0.00000	69.27	110	300	1.58583E-06	24	0.69
542-88-1	BIS (CHLOROMETHYL) ETHER*	0.100	0.00026	4220.02	110	300	9.66085E-05	24	41.73
106-99-0	BUTADIENE*	1.253	0.00330	52785.69	110	300	0.001208419	24	522.04
75-15-0	CARBON DISULFIDE*	0.415	0.00109	17487.33	110	300	0.000400336	24	172.95
142-40-3	DIMETHYLAMINE	1.117	0.00294	47069.64	110	300	0.001077562	24	465.51
50-00-00	FORMALDEHYDE*	0.002	0.00001	98.78	110	300	2.26131E-06	24	0.98
77-47-4	hexachlorocyclopentadiene	0.016	0.00004	659.04	110	300	1.50873E-05	24	6.52
302-01-2	hydrazine*	0.013	0.00003	555.29	110	300	1.27123E-05	24	5.49
60-34-4	methylhydrazine	0.048	0.00013	2025.65	110	300	4.63731E-05	24	20.03
57-14-7	1,1 dimethylhydrazine	0.162	0.00043	6824.88	110	300	0.000156242	24	67.50
75-01-4	vinyl chloride	1.257	0.00331	52950.63	110	300	0.001212195	24	523.67
62-75-9	N nitrosodimethylamine	0.100	0.00026	4194.48	110	300	9.60238E-05	24	41.48
74-90-8	hydrogen cyanide	0.793	0.00209	33411.21	110	300	0.00076488	24	330.43
108-03-2	1 NITROPROPANE	0.009	0.00002	399.26	110	300	9.14017E-06	24	3.95
71-41-0	1 pentanol	0.002	0.00000	73.24	110	300	1.67669E-06	24	0.72
95-57-8	2 chlorophenol	0.001	0.00000	47.35	110	300	1.08395E-06	24	0.47

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**Chicago Facility  
Vent Rate**

**Shredding Tower & Fuels Blending Operation**

CAS Number	Constituent	Saturated Conc. of Chemical in displacement air			Peak Operation				
		lb / lb mol air	lb/ cu.ft.air	mg/ cu.meter	Disp. Rate cfm	Vent Rate cfm	Chem. Conc. at APCD, lb/cu.ft.air	Hrs. of Oper. hrs	Total Chem Loading lb/day
	<i>Column ID --&gt;</i>	<i>Y</i>	<i>Z</i>	<i>AA</i>	<i>AB</i>	<i>AC</i>	<i>AD</i>	<i>AE</i>	<i>AF</i>
91-57-6	2 methylnapthalene	0.000	0.00000	2.19	110	300	5.00758E-08	24	0.02
109-89-7	DIETHYLAMINE	0.233	0.00061	9817.94	110	300	0.000224761	24	97.10
79-10-7	acrylic acid	0.115	0.00030	4856.02	110	300	0.000111168	24	48.02
83-32-9	acenaphthene	0.000	0.00000	0.73	110	300	1.67036E-08	24	0.01
75-00-3	CHLOROETHANE	0.232	0.00061	9774.81	110	300	0.000223774	24	96.67
74-87-3	CHLOROMETHANE	0.029	0.00008	1225.08	110	300	2.80458E-05	24	12.12

**Clean Harbors, Inc.**  
**Chicago Facility**  
**Estimated Break-through Time**

**Tank Farm and Metal wash System**

CAS Number	Constituent	Mol. Wt.	Total Loading to Carbon per day	Adsorption Cap. by wt. at 100 F in %	Carbon per Vessel lbs	Capacity of Carbon Vessel lb chem	Estimated Time Before Breakthrough in hrs
	<i>Column ID --&gt;</i>	<i>D</i>	<i>AI</i>	<i>AJ</i>	<i>AK</i>	<i>AL</i>	<i>AM</i>
124-18-5	Decane	142.29	22.88	33.80%	1800	608.4	638
112-40-3	Dodecane	170	25.96	38.00%	1800	684	632
1120-21-4	Undecane	156.35	24.48	37.30%	1800	671.4	658
95-47-6	1,2 dimethyle benzene	106.17	68.58	44.20%	1800	795.6	278
78-93-3	2, BUTANINE	72.1	2356.96	40.60%	1800	730.8	7
108-10-1	4 methyl 2 pentanone	100.2	195.48	40.00%	1800	720	88
67-64-1	ACETONE	58.08	4247.05	38.70%	1800	696.6	4
108-90-7	CHLOROBENZENE	112.6	134.81	55.30%	1800	995.4	177
100-82-7	CYCLOHEXANE	84.16	2602.99	38.80%	1800	698.4	6
64-17-5	ETHANOL	46.07	1108.17	39.40%	1800	709.2	15
141-78-6	ETHYL ACETATE	88.1	2653.74	45.00%	1800	810	7
100-41-4	ETHYL BENZENE	106.17	104.74	43.70%	1800	786.6	180
142-82-5	HEPTANE	100.2	1462.42	34.20%	1800	615.6	10
110-54-3	HEXANE	86.17	3995.66	33.00%	1800	594	4
78-83-1	ISOBUTYL ALCOHOL	74.12	390.14	40.70%	1800	732.6	45
67-63-0	ISOPROPYL ALCOHOL	60.09	1073.15	39.20%	1800	705.6	16
67-56-1	METHANOL	32.04	1554.21	38.90%	1800	700.2	11
8030-30-6	NAPHTHA	127.08	137.34	49.90%	1800	898.2	157
111-65-9	OCTANE	114.23	157.35	35.30%	1800	635.4	97
8052-41-3	STODDARD SOLVENT	127.08	137.34	49.90%	1800	898.2	157
108-88-3	TOLUENE	92.13	867.45	43.30%	1800	779.4	22
8006-64-2	TURPENTINE	136	1051.91	36.40%	1800	655.2	15
1330-20-7	XYLENES	106.17	124.93	43.70%	1800	786.6	151
611-14-3	1 ethyl 2 methyl benzene	120.2	27.90	38.70%	1800	696.6	599
108-67-8	1,3,5 trimethyl benzene	120.21	27.90	38.70%	1800	696.6	599
584-94-1	2,3 dimethyl hexane	114.23	112.45	25.40%	1800	457.2	98

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**Chicago Facility  
Estimated Break-through Time**

**Tank Farm and Metal wash System**

CAS Number	Constituent	Mol. Wt.	Total Loading to Carbon per day	Adsorption Cap. by wt. at 100 F in %	Carbon per Vessel lbs	Capacity of Carbon Vessel lb chem	Estimated Time Before Breakthrough in hrs
	<i>Column ID --&gt;</i>	<i>D</i>	<i>AI</i>	<i>AJ</i>	<i>AK</i>	<i>AL</i>	<i>AM</i>
589-34-4	3 methyl hexane	120.21	283.99	28.40%	1800	511.2	43
96-14-0	3 methyl pentane	86.18	272.11	23.70%	1800	426.6	38
103-65-1	propyl benzene	120.21	28.34	36.60%	1800	658.8	558
75-34-3	1,1 DICHLOROETHANE	98.97	1032.93	42.80%	1800	770.4	18
540-59-0	1,1 DICHLOROETHYLENE	96.95	974.96	36.70%	1800	660.6	16
71-55-6	1,1,1 TRICHLOROETHANE	133.42	623.07	49.90%	1800	898.2	35
630-20-6	1,1,1,2 TETRACHLOROETHANE	167.85	20.03	68.00%	1800	1224	1466
76-13-1	1,1,2 TRICHLORO 1,2,2 TRIFLUOROETHANE	187.38	667.74	56.80%	1800	1022.4	37
79-00-5	1,1,2 TRICHLOROETHANE	133.4	36.36	54.00%	1800	972	642
79-34-5	1,1,2,2 TETRACHLOROETHANE	167.85	6.52	61.40%	1800	1105.2	4069
107-06-2	1,2 DICHLOROETHANE	98.97	402.66	45.90%	1800	826.2	49
111-76-2	2 BUTOXYETHANOL	118.2	850.60	47.20%	1800	849.6	24
110-80-5	2 ETHOXYETHANOL	90.14	10.50	30.10%	1800	541.8	1239
111-15-9	2 ETHOXYETHYL ACETATE	132.18	3.41	20.90%	1800	376.2	2648
591-78-6	2 HEXANONE	100.18	27.76	24.50%	1800	441	381
110-49-6	2 METHOXYETHYL ACETATE	118.13	14.25	24.80%	1800	446.4	752
95-48-7	2 methylphenol	108.14	0.26	45.70%	1800	822.6	75798
109-86-4	2 METHOXYETHANOL	76.11	16.61	32.20%	1800	579.6	838
106-44-5	4 methylphenol	108.1	0.09	24.10%	1800	433.8	112723
98-83-9	A METHYL STYRENE	118	3.58	35.10%	1800	631.8	4240
75-07-0	ACETALDEHYDE	44	1513.53	26.20%	1800	471.6	7
64-19-07	ACETIC ACID	60.05	22.42	34.50%	1800	621	665
75-5-8	ACETONITRILE	41.05	382.52	26.10%	1800	469.8	29
71-43-2	BENZENE	78.11	456.79	35.30%	1800	635.4	33
117-81-7	bis(2 ethylhexyl)phthalate	390.54	3.96	53.20%	1800	957.6	5805
56-23-5	CARBON TETRACHLORIDE	153.84	566.76	56.10%	1800	1009.8	43
67-66-3	CHLOROFORM	119.39	930.59	53.00%	1800	954	25
1319-77-3	CRESOL	108.13	4.93	48.70%	1800	876.6	4263
98-82-8	CUMENE	120.2	7.51	36.70%	1800	660.6	2112

Table 7  
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**Chicago Facility**  
**Estimated Break-through Time**

**Tank Farm and Metal wash System**

CAS Number	Constituent	Mol. Wt.	Total Loading to Carbon per day	Adsorption Cap. by wt. at 100 F in %	Carbon per Vessel lbs	Capacity of Carbon Vessel lb chem	Estimated Time Before Breakthrough in hrs
	<i>Column ID --&gt;</i>	<i>D</i>	<i>AI</i>	<i>AJ</i>	<i>AK</i>	<i>AL</i>	<i>AM</i>
108-93-0	CYCLOHEXANOL	100.2	0.24	38.80%	1800	698.4	70224
108-94-1	CYCLOHEXANONE	98.2	7.76	37.80%	1800	680.4	2104
110-83-8	CYCLOHEXENE	82.15	433.37	29.50%	1800	531	29
542-92-7	Cyclopentadiene	66.1	1027.57	28.10%	1800	505.8	12
84-74-2	di n butylphthalate	278.38	0.16	53.20%	1800	957.6	147164
117-84-0	di n octylphthalate	390.54	3.96	53.20%	1800	957.6	5805
108-83-8	DIISOBUTYL KETONE	142.23	14.18	22.30%	1800	401.4	679
68-12-2	DIMETHYL FORMAMIDE	73.09	5.55	35.50%	1800	639	2762
131-11-3	dimethylphthalate	194.2	2.91	53.20%	1800	957.6	7908
123-91-1	DIOXANE	88.1	213.27	39.40%	1800	709.2	80
541-85-5	ETHYL AMYL KETONE	128.24	2.81	27.20%	1800	489.6	4184
106-35-4	ETHYL BUTYL KETONE	114.21	2.77	27.20%	1800	489.6	4235
60-29-7	ETHYL ETHER	74.12	979.80	27.60%	1800	496.8	12
56-81-5	GLYCERIN	92.11	0.01	20.00%	1800	360	1214518
67-72-1	HEXACHLOROETHANE	236.72	2.94	47.20%	1800	849.6	6930
123-92-2	ISOAMYL ACETATE	130.18	40.12	26.20%	1800	471.6	282
123-51-3	ISOAMYL ALCOHOL	88.15	21.50	32.50%	1800	585	653
110-19-0	ISOBUTYL ACETATE	116.16	97.15	29.50%	1800	531	131
78-59-1	ISOPHORONE	138.2	9.68	43.30%	1800	779.4	1933
108-21-4	ISOPROPYL ACETATE	102.15	288.76	34.00%	1800	612	51
79-20-9	METHYL ACETATE	74.08	959.37	33.20%	1800	597.6	15
108-11-2	METHYL AMYL ALCOHOL	102.18	39.50	33.30%	1800	599.4	364
110-43-0	METHYL N AMYL KETONE	114.21	2.77	27.20%	1800	489.6	4235
107-87-9	METHYL PROPYL KETONE	86.15	108.56	24.10%	1800	433.8	96
75-09-2	METHYLENE CHLORIDE	84.94	1877.22	39.80%	1800	716.4	9
123-86-4	N BUTYL ACETATE	116.18	42.43	33.80%	1800	608.4	344
71-36-3	N BUTYL ALCOHOL	74.12	7.79	31.30%	1800	563.4	1735
98-95-3	NITROBENZENE	123.1	0.34	48.60%	1800	874.8	61446
109-66-0	PENTANE	72015	2538.62	25.60%	1800	460.8	4

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**Chicago Facility**  
**Estimated Break-through Time**

**Tank Farm and Metal wash System**

CAS Number	Constituent	Mol. Wt.	Total Loading to Carbon per day	Adsorption Cap. by wt. at 100 F in %	Carbon per Vessel lbs	Capacity of Carbon Vessel lb chem	Estimated Time Before Breakthrough in hrs
	<i>Column ID --&gt;</i>	<i>D</i>	<i>AI</i>	<i>AJ</i>	<i>AK</i>	<i>AL</i>	<i>AM</i>
108-95-2	PHENOL	94.11	4.85	48.10%	1800	865.8	4283
105-46-4	SEC BUTYL ACETATE	116.18	140.16	38.50%	1800	693	119
78-92-2	SEC BUTYL ALCOHOL	74.12	104.34	31.20%	1800	561.6	129
100-42-5	STYRENE	104.15	10.38	38.30%	1800	689.4	1594
75-65-0	TERT BUTYL ALCOHOL	74.12	234.59	30.20%	1800	543.6	56
127-18-4	TETRACHLOROETHYLENE	165.83	31.31	62.90%	1800	1132.2	868
109-99-9	TETRAHYDROFURAN	72.12	279.69	33.50%	1800	603	52
156-60-5	TRANS 1,2 DICHLOROETHYLENE	96.95	1434.58	45.50%	1800	819	14
79-01-6	TRICHLOROETHYLENE	131.4	386.72	54.80%	1800	986.4	61
na	1,1' oxybis(2 methoxy) ethane	134.12	16.18	20.00%	1800	360	534
78-87-5	1,2 DICHLOROPROPANE	112.99	26.45	20.00%	1800	360	327
79-46-9	2 NITROPROPANE*	89.09	10.53	20.00%	1800	360	821
107-02-8	acrolein	56.1	193.09	20.00%	1800	360	45
107-13-1	ACRYLONITRILE*	53.06	58.58	20.00%	1800	360	147
107-18-6	ALLYL ALCOHOL	76.53	14.76	20.00%	1800	360	585
107-05-1	Allyl Chloride	56.53	160.81	20.00%	1800	360	54
62-53-3	Aniline	93.1	0.09	20.00%	1800	360	94607
91-59-8	b NAPTHAYLAMINE*	143.2	0.28	20.00%	1800	360	30757
542-88-1	BIS (CHLOROMETHYL) ETHER*	114.96	17.11	20.00%	1800	360	505
106-99-0	BUTADIENE*	54.1	214.05	20.00%	1800	360	40
75-15-0	CARBON DISULFIDE*	76.13	164.52	20.00%	1800	360	53
142-40-3	DIMETHYLAMINE	45.08	190.88	20.00%	1800	360	45
50-00-00	FORMALDEHYDE*	30.03	1.27	20.00%	1800	360	6786
77-47-4	hexachlorocyclopentadiene	272.7	2.67	20.00%	1800	360	3233
302-01-2	hydrazine*	32.05	8.13	20.00%	1800	360	1062
60-34-4	methylhydrazine	46.09	26.30	20.00%	1800	360	329
57-14-7	1,1 dimethylhydrazine	60.1	27.68	20.00%	1800	360	312
75-01-4	vinyl chloride	62.5	214.72	20.00%	1800	360	40

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**Chicago Facility  
Estimated Break-through Time**

**Tank Farm and Metal wash System**

CAS Number	Constituent	Mol. Wt.	Total Loading to Carbon per day	Adsorption Cap. by wt. at 100 F in %	Carbon per Vessel lbs	Capacity of Carbon Vessel lb chem	Estimated Time Before Breakthrough in hrs
	<i>Column ID --&gt;</i>	<i>D</i>	<i>AI</i>	<i>AJ</i>	<i>AK</i>	<i>AL</i>	<i>AM</i>
62-75-9	N nitrosodimethylamine	74.1	17.01	20.00%	1800	360	508
74-90-8	hydrogen cyanide	27.03	316.68	20.00%	1800	360	27
108-03-2	1 NITROPROPANE	89.09	1.62	20.00%	1800	360	5335
71-41-0	1 pentanol	88.15	0.30	20.00%	1800	360	29045
95-57-8	2 chlorophenol	128.56	0.19	20.00%	1800	360	45104
91-57-6	2 methylnapthalene	142.2	0.01	20.00%	1800	360	1031606
109-89-7	DIETHYLAMINE	73.14	39.81	20.00%	1800	360	217
79-10-7	acrylic acid	72.06	19.69	20.00%	1800	360	439
83-32-9	acenaphthene	154.21	0.00	20.00%	1800	360	2863247
75-00-3	CHLOROETHANE	64.52	39.64	20.00%	1800	360	218
74-87-3	CHLOROMETHANE	50.49	4.97	20.00%	1800	360	1739

Clean Harbors, Inc.  
Chicago Facility  
Estimated Break-through Time

Shredding Tower and Fuels blending operation

CAS Number	Constituent	Mol. Wt.		Adsorption	Carbon per Vessel lbs	Capacity of Carbon Vaessel lb chem	Estimated Time Before Breakthrough in hrs
			Total Chem Loading lb/day	Capacity by weight in %			
	Column ID -->	D	AF	AG	AH	AI	AJ
124-18-5	Decane	142.29	55.80	32.30%	1800	581.4	250
112-40-3	Dodecane	170	63.31	38.00%	1800	684	259
1120-21-4	Undecane	156.35	59.71	36.00%	1800	648	260
95-47-6	1,2 dimethyle benzene	106.17	167.25	40.20%	1800	723.6	104
78-93-3	2, BUTANINE	72.1	2060.39	33.10%	1800	595.8	7
108-10-1	4 methyl 2 pentanone	100.2	476.74	35.60%	1800	640.8	32
67-64-1	ACETONE	58.08	4088.23	27.60%	1800	496.8	3
108-90-7	CHLOROBENZENE	112.6	328.77	49.20%	1800	885.6	65
100-82-7	CYCLOHEXANE	84.16	2379.83	31.90%	1800	574.2	6
64-17-5	ETHANOL	46.07	721.08	30.00%	1800	540	18
141-78-6	ETHYL ACETATE	88.1	2235.06	39.30%	1800	707.4	8
100-41-4	ETHYL BENZENE	106.17	255.44	39.60%	1800	712.8	67
142-82-5	HEPTANE	100.2	1216.59	30.40%	1800	547.2	11
110-54-3	HEXANE	86.17	3736.90	28.40%	1800	511.2	3
78-83-1	ISOBUTYL ALCOHOL	74.12	237.43	36.60%	1800	658.8	67
67-63-0	ISOPROPYL ALCOHOL	60.09	710.57	32.80%	1800	590.4	20
67-56-1	METHANOL	32.04	1182.78	24.00%	1800	432	9
8030-30-6	NAPHTHA	127.08	253.91	49.90%	1800	898.2	85
111-65-9	OCTANE	114.23	48.17	24.50%	1800	441	220
8052-41-3	STODDARD SOLVENT	127.08	253.91	49.90%	1800	898.2	85
108-88-3	TOLUENE	92.13	649.80	38.50%	1800	693	26
8006-64-2	TURPENTINE	136	1593.78	36.40%	1800	655.2	10
1330-20-7	XYLENES	106.17	304.68	40.20%	1800	723.6	57
611-14-3	1 ethyl 2 methyl benzene	120.2	68.04	36.30%	1800	653.4	230
108-67-8	1,3,5 trimethyl benzene	120.21	13.97	36.30%	1800	653.4	1123
584-94-1	2,3 dimethyl hexane	114.23	131.78	22.90%	1800	412.2	75

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**Chicago Facility**  
**Estimated Break-through Time**

**Shredding Tower and Fuels blending operation**

CAS Number	Constituent	Mol. Wt.		Adsorption	Carbon per Vessel lbs	Capacity of Carbon Vaessel lb chem	Estimated Time Before Breakthrough in hrs
			Total Chem Loading lb/day	Capacity by weight in %			
	Column ID -->	D	AF	AG	AH	AI	AJ
589-34-4	3 methyl hexane	120.21	411.83	25.50%	1800	459	27
96-14-0	3 methyl pentane	86.18	663.62	20.70%	1800	372.6	13
103-65-1	propyl benzene	120.21	69.12	34.30%	1800	617.4	214
75-34-3	1,1 DICHLOROETHANE	98.97	1015.98	35.00%	1800	630	15
540-59-0	1,1 DICHLOROETHYLENE	96.95	931.95	29.70%	1800	534.6	14
71-55-6	1,1,1 TRICHLOROETHANE	133.42	573.95	43.00%	1800	774	32
630-20-6	1,1,1,2 TETRACHLOROETHANE	167.85	48.86	62.60%	1800	1126.8	553
76-13-1	1,1,2 TRICHLORO 1,2,2 TRIFLUOROETHANE	187.38	1628.50	48.20%	1800	867.6	13
79-00-5	1,1,2 TRICHLOROETHANE	133.4	88.67	47.70%	1800	858.6	232
79-34-5	1,1,2,2 TETRACHLOROETHANE	167.85	15.90	56.90%	1800	1024.2	1546
107-06-2	1,2 DICHLOROETHANE	98.97	358.97	38.20%	1800	687.6	46
111-76-2	2 BUTOXYETHANOL	118.2	26.45	47.20%	1800	849.6	771
110-80-5	2 ETHOXYETHANOL	90.14	2007.75	27.20%	1800	489.6	6
111-15-9	2 ETHOXYETHYL ACETATE	132.18	8.32	19.10%	1800	343.8	992
591-78-6	2 HEXANONE	100.18	67.69	21.70%	1800	390.6	138
110-49-6	2 METHOXYETHYL ACETATE	118.13	14.01	22.50%	1800	405	694
95-48-7	2 methylphenol	108.14	0.64	44.70%	1800	804.6	30393
109-86-4	2 METHOXYETHANOL	76.11	40.51	29.00%	1800	522	309
106-44-5	4 methylphenol	108.1	0.23	46.10%	1800	829.8	88468
98-83-9	A METHYL STYRENE	118	8.72	32.60%	1800	586.8	1615
75-07-0	ACETALDEHYDE	44	3691.21	17.20%	1800	309.6	2
64-19-07	ACETIC ACID	60.05	54.67	26.80%	1800	482.4	212
75-5-8	ACETONITRILE	41.05	322.47	17.90%	1800	322.2	24
71-43-2	BENZENE	78.11	393.14	30.40%	1800	547.2	33
117-81-7	bis(2 ethylhexyl)phthalate	390.54	9.66	53.20%	1800	957.6	2380
56-23-5	CARBON TETRACHLORIDE	153.84	517.55	48.90%	1800	880.2	41
67-66-3	CHLOROFORM	119.39	885.70	43.80%	1800	788.4	21
1319-77-3	CRESOL	108.13	2.83	46.70%	1800	840.6	7125
98-82-8	CUMENE	120.2	18.31	34.30%	1800	617.4	809

Table 8  
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**Chicago Facility**  
**Estimated Break-through Time**

**Shredding Tower and Fuels blending operation**

CAS Number	Constituent	Mol. Wt.		Adsorption	Carbon	Capacity	Estimated Time Before Breakthrough in hrs
			Total Chem Loading lb/day	Capacity by weight in %	per Vessel lbs	of Carbon Vaessel lb chem	
	<i>Column ID --&gt;</i>	<i>D</i>	<i>AF</i>	<i>AG</i>	<i>AH</i>	<i>AI</i>	<i>AJ</i>
108-93-0	CYCLOHEXANOL	100.2	0.58	40.30%	1800	725.4	29901
108-94-1	CYCLOHEXANONE	98.2	19.23	33.90%	1800	610.2	761
110-83-8	CYCLOHEXENE	82.15	1056.90	24.70%	1800	444.6	10
542-92-7	Cyclopentadiene	66.1	2506.04	23.20%	1800	417.6	4
84-74-2	di n butylphthalate	278.38	0.38	53.20%	1800	957.6	60343
117-84-0	di n octylphthalate	390.54	9.66	53.20%	1800	957.6	2380
108-83-8	DIISOBUTYL KETONE	142.23	12.74	19.80%	1800	356.4	671
68-12-2	DIMETHYL FORMAMIDE	73.09	13.54	31.20%	1800	561.6	995
131-11-3	dimethylphthalate	194.2	7.09	53.20%	1800	957.6	3242
123-91-1	DIOXANE	88.1	146.58	33.30%	1800	599.4	98
541-85-5	ETHYL AMYL KETONE	128.24	6.85	25.70%	1800	462.6	1621
106-35-4	ETHYL BUTYL KETONE	114.21	6.77	25.70%	1800	462.6	1641
60-29-7	ETHYL ETHER	74.12	2359.40	22.50%	1800	405	4
56-81-5	GLYCERIN	92.11	0.02	20.00%	1800	360	497998
67-72-1	HEXACHLOROETHANE	236.72	7.18	44.50%	1800	801	2679
123-92-2	ISOAMYL ACETATE	130.18	266.07	23.30%	1800	419.4	38
123-51-3	ISOAMYL ALCOHOL	88.15	10.35	30.70%	1800	552.6	1282
110-19-0	ISOBUTYL ACETATE	116.16	67.08	26.00%	1800	468	167
78-59-1	ISOPHORONE	138.2	23.60	40.80%	1800	734.4	747
108-21-4	ISOPROPYL ACETATE	102.15	221.15	29.70%	1800	534.6	58
79-20-9	METHYL ACETATE	74.08	922.97	26.20%	1800	471.6	12
108-11-2	METHYL AMYL ALCOHOL	102.18	25.67	30.50%	1800	549	513
110-43-0	METHYL N AMYL KETONE	114.21	6.77	25.70%	1800	462.6	1641
107-87-9	METHYL PROPYL KETONE	86.15	65.33	20.20%	1800	363.6	134
75-09-2	METHYLENE CHLORIDE	84.94	1864.62	27.80%	1800	500.4	6
123-86-4	N BUTYL ACETATE	116.18	103.48	30.90%	1800	556.2	129
71-36-3	N BUTYL ALCOHOL	74.12	19.00	28.80%	1800	518.4	655
98-95-3	NITROBENZENE	123.1	0.83	45.80%	1800	824.4	23745
109-66-0	PENTANE	72015	2731.90	21.30%	1800	383.4	3

**Chicago Facility**  
**Estimated Break-through Time**

**Shredding Tower and Fuels blending operation**

CAS Number	Constituent	Mol. Wt.	Total Chem	Adsorption	Carbon	Capacity	Estimated
			Loading lb/day	Capacity by weight in %	per Vessel lbs	of Carbon Vaessel lb chem	Time Before Breakthrough in hrs
	<i>Column ID --&gt;</i>	<i>D</i>	<i>AF</i>	<i>AG</i>	<i>AH</i>	<i>AI</i>	<i>AJ</i>
108-95-2	PHENOL	94.11	4.18	46.10%	1800	829.8	4769
105-46-4	SEC BUTYL ACETATE	116.18	107.40	34.90%	1800	628.2	140
78-92-2	SEC BUTYL ALCOHOL	74.12	57.48	28.20%	1800	507.6	212
100-42-5	STYRENE	104.15	25.31	35.40%	1800	637.2	604
75-65-0	TERT BUTYL ALCOHOL	74.12	142.86	26.90%	1800	484.2	81
127-18-4	TETRACHLOROETHYLENE	165.83	76.36	56.60%	1800	1018.8	320
109-99-9	TETRAHYDROFURAN	72.12	680.08	27.10%	1800	487.8	17
156-60-5	TRANS 1,2 DICHLOROETHYLENE	96.95	1519.83	36.70%	1800	660.6	10
79-01-6	TRICHLOROETHYLENE	131.4	321.24	47.00%	1800	846	63
na	1,1' oxybis(2 methoxy) ethane	134.12	14.84	20.00%	1800	360	582
78-87-5	1,2 DICHLOROPROPANE	112.99	22.88	20.00%	1800	360	378
79-46-9	2 NITROPROPANE*	89.09	8.50	20.00%	1800	360	1017
107-02-8	acrolein	56.1	196.93	20.00%	1800	360	44
107-13-1	ACRYLONITRILE*	53.06	48.77	20.00%	1800	360	177
107-18-6	ALLYL ALCOHOL	76.53	9.34	20.00%	1800	360	925
107-05-1	Allyl Chloride	56.53	170.64	20.00%	1800	360	51
62-53-3	Aniline	93.1	0.22	20.00%	1800	360	38790
91-59-8	b NAPTHAYLAMINE*	143.2	0.69	20.00%	1800	360	12612
542-88-1	BIS (CHLOROMETHYL) ETHER*	114.96	41.73	20.00%	1800	360	207
106-99-0	BUTADIENE*	54.1	522.04	20.00%	1800	360	17
75-15-0	CARBON DISULFIDE*	76.13	172.95	20.00%	1800	360	50
142-40-3	DIMETHYLAMINE	45.08	465.51	20.00%	1800	360	19
50-00-00	FORMALDEHYDE*	30.03	0.98	20.00%	1800	360	8844
77-47-4	hexachlorocyclopenatadiene	272.7	6.52	20.00%	1800	360	1326
302-01-2	hydrazine*	32.05	5.49	20.00%	1800	360	1573
60-34-4	methylhydrazine	46.09	20.03	20.00%	1800	360	431
57-14-7	1,1 dimethylhydrazine	60.1	67.50	20.00%	1800	360	128
75-01-4	vinyl chloride	62.5	523.67	20.00%	1800	360	16

Table 8  
Page 4 of 5

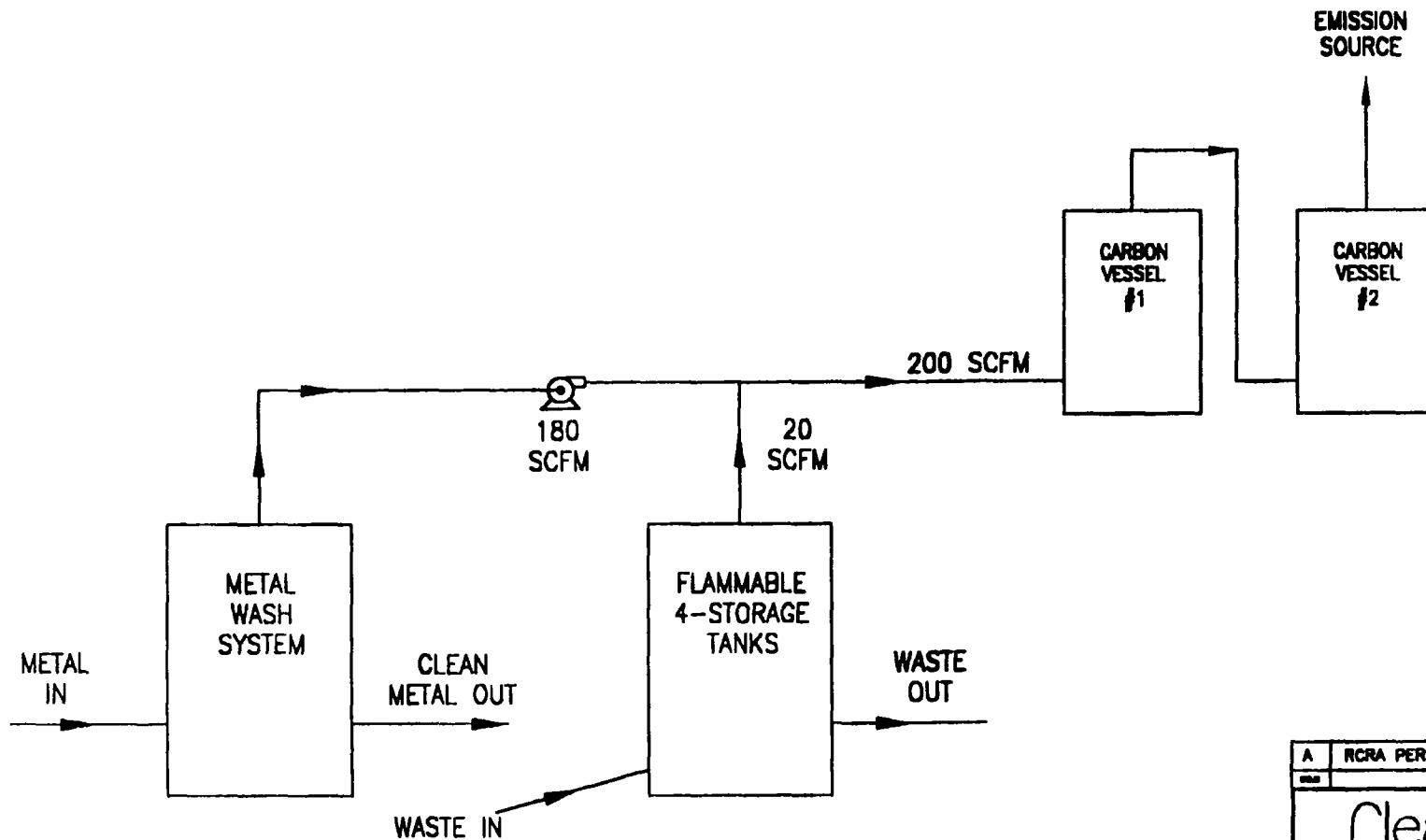
1/17/00




**Chicago Facility**  
**Estimated Break-through Time**

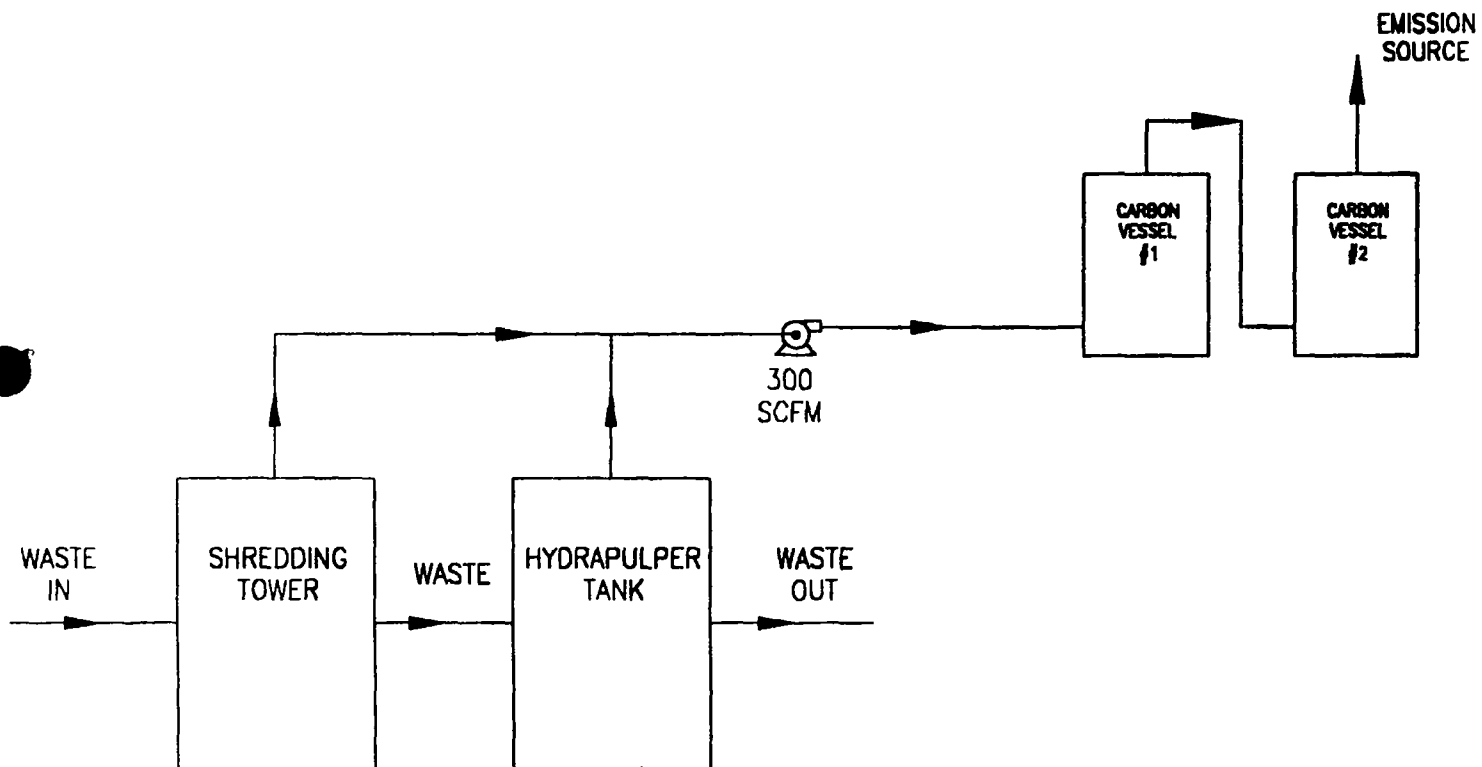
**Shredding Tower and Fuels blending operation**

CAS Number	Constituent	Mol. Wt.		Adsorption	Carbon per Vessel lbs	Capacity of Carbon Vaessel lb chem	Estimated Time Before Breakthrough in hrs
			Total Chem Loading lb/day	Capacity by weight in %			
	Column ID -->	D	AF	AG	AH	AI	AJ
62-75-9	N nitrosodimethylamine	74.1	41.48	20.00%	1800	360	208
74-90-8	hydrogen cyanide	27.03	330.43	20.00%	1800	360	26
108-03-2	1 NITROPROPANE	89.09	3.95	20.00%	1800	360	2188
71-41-0	1 pentanol	88.15	0.72	20.00%	1800	360	11928
95-57-8	2 chlorophenol	128.56	0.47	20.00%	1800	360	18451
91-57-6	2 methylnapthalene	142.2	0.02	20.00%	1800	360	399394
109-89-7	DIETHYLAMINE	73.14	97.10	20.00%	1800	360	89
79-10-7	acrylic acid	72.06	48.02	20.00%	1800	360	180
83-32-9	acenaphthene	154.21	0.01	20.00%	1800	360	1197348
75-00-3	CHLOROETHANE	64.52	96.67	20.00%	1800	360	89
74-87-3	CHLOROMETHANE	50.49	12.12	20.00%	1800	360	713



12/7/00

A RCRA PERMIT					
ISSUE	DESCRIPTION	ISSUE	CHG	APPL	DATE
 ENVIRONMENTAL SERVICES, INC. 130 Washington Street Springfield, Massachusetts 01103 Telephone (781) 949-1900					
CLEAN HARBORS SERVICES, INC. 11800 S. STONY ISLAND AVE. CHICAGO, ILLINOIS 60617 PROPOSED VENTING METAL WASH/STORAGE AREA					
PROJECT NO. 114630		ISSUE NO. 4630-F-03-01			
RISK NONE					



12/7/00

A	RCRA PERMIT				
NAME	CleanHarbors	DATE	12/7/00	APPROVED	
ENVIRONMENTAL SERVICES, INC. 150 Washington Street Braintree, Massachusetts 02105 Telephone (781) 849-1505					
CLEAN HARBORS SERVICES, INC. 11800 S. STONY ISLAND AVE. CHICAGO, ILLINOIS 60617 PROPOSED VENTING SHREDDING PROCESS AREA					
PERMIT NO.	114630	ISSUE NO.	4630-F-03-02		
REMARKS	NONE				



SERVICES, INC.

11800 SOUTH STONY ISLAND AVENUE • CHICAGO, IL 60617

(773) 646-6202 • FAX (773) 646-6381

Visit our Website at [www.cleanharbors.com](http://www.cleanharbors.com)

February 21, 2001

Mr. Michael J. Mikulka, P.E.  
U.S. Environmental Protection Agency  
Waste Pesticides and Toxics Division  
77 West Jackson Boulevard  
Chicago, IL 60604

Dear Mr. Mikulka:

Clean Harbors Services, Inc. (CHSI) is submitting additional information from your inspection of January 29, 2001. This letter addresses several items which you noted during the inspection.

Tank 103 had experienced a spill which was reported to IEPA, but some waste material did not come off the tank when washed down. When the weather warmed up, a 3000 psi pressure washer was used to remove the waste residue.

You noted a odor by the top of Tank 102. Quarterly monitoring was conducted just after the inspection for all valves, the conservation vent, emergency vent, flame arrestor, and agitator seal. Monitoring revealed "no detectable emissions" for each item.

You noted several caps or plugs missing from open ended valves in the tankfarm. A cap or plug has been attached to each of the open ended valves or lines.

You also noted an open half-full drum in the fuel blending operation. This drum was closed after it was pointed out.

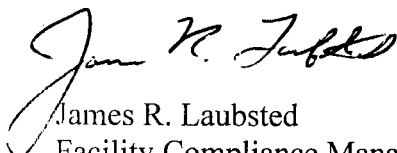
In a discussion yesterday, you noted two errors in the written plan for Subpart BB and CC. On page 4 (Section 2.1.1), it was indicated that the fuel dispersion system was vented to a carbon adsorption system which provides a minimum removal efficiency of 90%. The actual minimum removal efficiency is 95%. On page 37 (Section 6.2.2), it was indicated that breakthrough of carbon adsorption beds was determined on weekly monitoring of organic emissions. The carbon adsorption systems are actually monitored daily to determine breakthrough. These pages will be revised correcting these errors.

If you have any questions concerning this letter, please contact me at (773)646-6202, x233.

110

Mr. Michael J. Mikulka, P.E.  
February 21, 2001  
Page 2

Sincerely,

  
James R. Laubsted  
Facility Compliance Manager

COPIES TO: LORNA JERRETT  
JAMES EDOUGH  
AARON DYLAN, IEPA

DP-EJ



11800 SOUTH STONY ISLAND AVENUE • CHICAGO, IL 60617  
(773) 646-6202 • FAX (773) 646-6381  
Visit our Website at [www.cleanharbors.com](http://www.cleanharbors.com)

*Am B*

January 30, 2001

Mr. James Blough  
U.S. Environmental Protection Agency  
RCRA Permit Section, DW-8J  
77 West Jackson Boulevard  
Chicago, IL 60604-3590

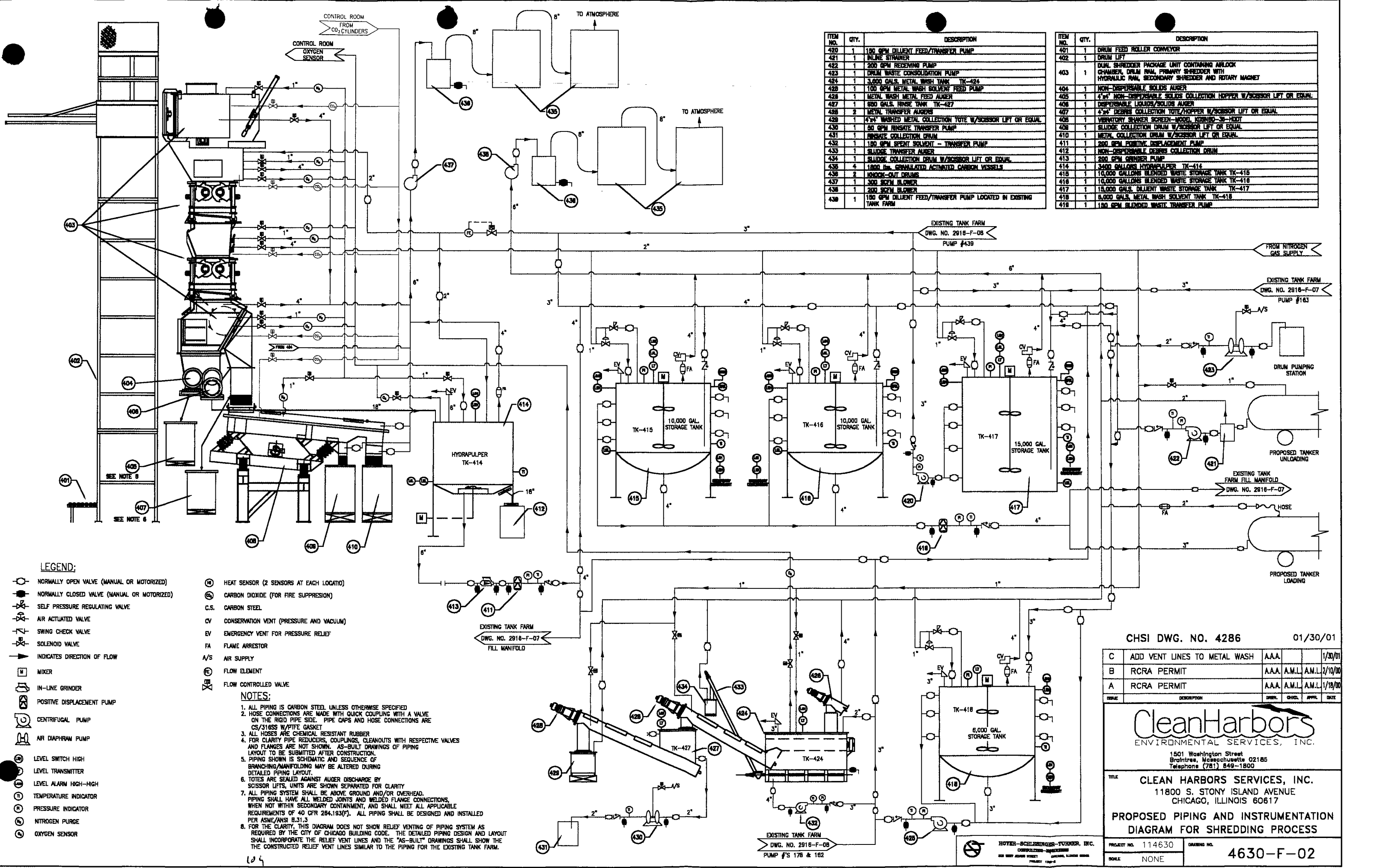
Dear Mr. Blough:

Clean Harbors Services, Inc. (CHSI) is submitting additional information concerning the hazardous waste shredder system permit modification. CHSI is adding vent lines to the carbon adsorption system from the metalwash system. One will connect the washed metal collection tote (Item 429) and the other will connect the sludge collection drum (Item 434). These revised connections are shown on CHSI Drawing No. 4286 (Drawing No. 4630-F-02) which is enclosed.

If you have any questions or require additional information, please contact me at (773) 646-6202, x233.

Sincerely,

James R. Laubsted  
Facility Compliance Manager



ITEM NO.	QTY.	DESCRIPTION
420	1	150 GPM DILUENT FEED/TRANSFER PUMP
421	1	INLINE STRAINER
422	1	200 GPM RECEIVING PUMP
423	1	DRUM WASTE CONSOLIDATION PUMP
424	1	3,000 GALS. METAL WASH TANK TK-424
425	1	100 GPM METAL WASH SOLVENT FEED PUMP
426	1	METAL WASH METAL FEED AUGER
427	1	800 GALS. RINSE TANK TK-427
428	2	METAL TRANSFER AUGERS
429	1	4\"/>

ITEM NO.	QTY.	DESCRIPTION
401	1	DRUM FEED ROLLER CONVEYOR
402	1	DRUM LIFT
403	1	DUAL SHREDDER PACKAGE UNIT CONTAINING AIRLOCK CHAMBER, DRUM RAIL, PRIMARY SHREDDER WITH HYDRAULIC RAM, SECONDARY SHREDDER AND ROTARY MAGNET
404	1	NON-DISPERSIBLE SOLIDS AUGER
405	1	4\"/>
406	1	DISPERSIBLE LIQUIDS/SOLIDS AUGER
407	1	4\"/>
408	1	VERTICALLY SHAKER SCREEN-MODEL KOSHO-SB-HOOT
409	1	SLUDGE COLLECTION DRUM W/SCISSOR LIFT OR EQUAL
410	1	METAL COLLECTION DRUM W/SCISSOR LIFT OR EQUAL
411	1	200 GPM POSITIVE DISPLACEMENT PUMP
412	1	NON-DISPERSIBLE DEBRIS COLLECTION DRUM
413	1	200 GPM GRINDER PUMP
414	1	3400 GALLONS HYDRAULIC PULPER TK-414
415	1	10,000 GALLONS BLENDED WASTE STORAGE TANK TK-415
416	1	10,000 GALLONS BLENDED WASTE STORAGE TANK TK-416
417	1	15,000 GALS. DILUENT WASTE STORAGE TANK TK-417
418	1	6,000 GALS. METAL WASH SOLVENT TANK TK-418
419	1	150 GPM BLENDED WASTE TRANSFER PUMP

LEGEND:

- NORMALLY OPEN VALVE (MANUAL OR MOTORIZED)
- NORMALLY CLOSED VALVE (MANUAL OR MOTORIZED)
- SELF PRESSURE REGULATING VALVE
- AIR ACTUATED VALVE
- SWING CHECK VALVE
- SOLENOID VALVE
- INDICATES DIRECTION OF FLOW
- MIXER
- IN-LINE GRINDER
- POSITIVE DISPLACEMENT PUMP
- CENTRIFUGAL PUMP
- AIR DIAPHRAM PUMP
- LEVEL SWITCH HIGH
- LEVEL TRANSMITTER
- LEVEL ALARM HIGH-HIGH
- TEMPERATURE INDICATOR
- PRESSURE INDICATOR
- NITROGEN PURGE
- OXYGEN SENSOR
- HEAT SENSOR (2 SENSORS AT EACH LOCATION)
- CARBON DIOXIDE (FOR FIRE SUPPRESSION)
- CARBON STEEL
- CONSERVATION VENT (PRESSURE AND VACUUM)
- EMERGENCY VENT FOR PRESSURE RELIEF
- FLAME ARRESTOR
- AIR SUPPLY
- FLOW ELEMENT
- FLOW CONTROL VALVE

NOTES:

1. ALL PIPING IS CARBON STEEL UNLESS OTHERWISE SPECIFIED
2. HOSE CONNECTIONS ARE MADE WITH QUICK COUPLING WITH A VALVE ON THE RIGID PIPE SIDE. PIPE CAPS AND HOSE CONNECTIONS ARE CS/316SS W/PTFE GASKET
3. ALL HOSES ARE CHEMICAL RESISTANT RUBBER
4. FOR CLARITY PIPE REDUCERS, COUPLINGS, CLEANOUTS WITH RESPECTIVE VALVES AND FLANGES ARE NOT SHOWN. AS-BUILT DRAWINGS OF PIPING LAYOUT TO BE SUBMITTED AFTER CONSTRUCTION.
5. PIPING SHOWN IS SCHEMATIC AND SEQUENCE OF BRANCHING/MANFOLDING MAY BE ALTERED DURING DETAILED PIPING LAYOUT.
6. TOTES ARE SEALED AGAINST AUGER DISCHARGE BY SCISSOR LIFTS, UNITS ARE SHOWN SEPARATED FOR CLARITY
7. ALL PIPING SYSTEM SHALL BE ABOVE GROUND AND/OR OVERHEAD. PIPING SHALL HAVE ALL WELDED JOINTS AND WELDED FLANGE CONNECTIONS. WHEN NOT WITHIN SECONDARY CONTAINMENT, AND SHALL MEET ALL APPLICABLE REQUIREMENTS OF 40 CFR 264.193(f). ALL PIPING SHALL BE DESIGNED AND INSTALLED PER ASME/ANSI B.31.3
8. FOR THE CLARITY, THIS DIAGRAM DOES NOT SHOW RELIEF VENTING OF PIPING SYSTEM AS REQUIRED BY THE CITY OF CHICAGO BUILDING CODE. THE DETAILED PIPING DESIGN AND LAYOUT SHALL INCORPORATE THE RELIEF VENT LINES AND THE "AS-BUILT" DRAWINGS SHALL SHOW THE THE CONSTRUCTED RELIEF VENT LINES SIMILAR TO THE PIPING FOR THE EXISTING TANK FARM.

CHSI DWG. NO. 4286 01/30/01

C	ADD VENT LINES TO METAL WASH	AAA			1/30/01
B	RCRA PERMIT	AAA	A.M.L.	A.M.L.	2/10/00
A	RCRA PERMIT	AAA	A.M.L.	A.M.L.	1/18/00
DATE	DESCRIPTION	DESIGN	CHD.	APPR.	DATE

**CleanHarbors**  
ENVIRONMENTAL SERVICES, INC.

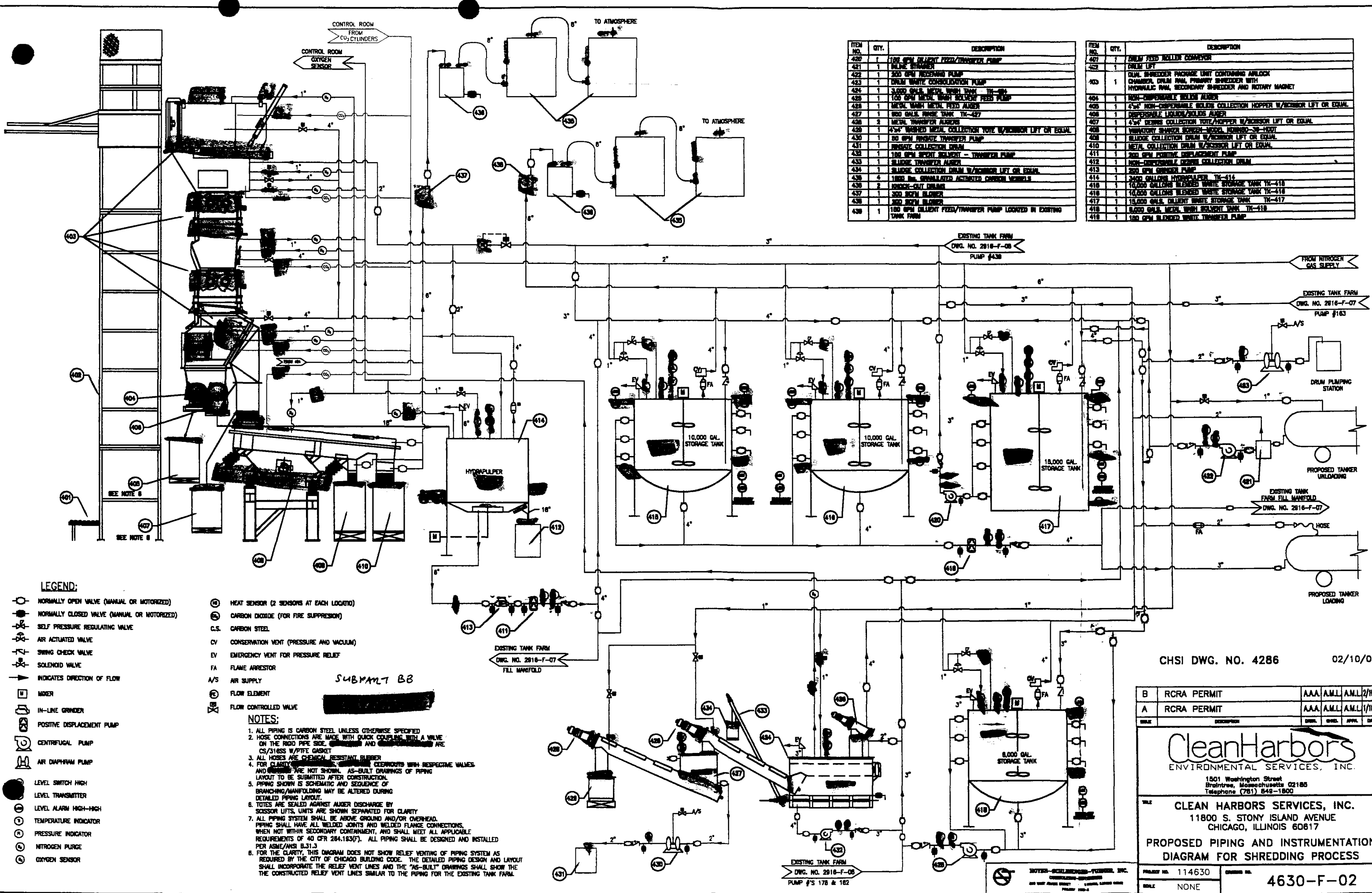
1501 Washington Street  
Braintree, Massachusetts 02185  
Telephone (781) 849-1800

TITLE  
**CLEAN HARBORS SERVICES, INC.**  
11800 S. STONY ISLAND AVENUE  
CHICAGO, ILLINOIS 60617

**PROPOSED PIPING AND INSTRUMENTATION  
DIAGRAM FOR SHREDDING PROCESS**

PROJECT NO.	114630	DRAWING NO.	4630-F-02
SCALE	NONE		

**HOYER-SCHEIDT-RODNER, INC.**  
CHEMICAL PROCESS ENGINEERS  
200 WEST ADAMS STREET  
CHICAGO, ILLINOIS 60606  
PROJECT 1789-A



ITEM NO.	QTY.	DESCRIPTION
420	1	100 GPM DILUENT FEED/TRANSFER PUMP
421	1	W/BE STATION
422	1	200 GPM RECOVERING PUMP
423	1	DRUM WASTE CONSOLIDATION PUMP
424	1	3,000 GALS. METAL WASH TANK TX-424
425	1	100 GPM METAL WASH SOLVENT FEED PUMP
426	1	METAL WASH METAL FEED ALIEN
427	1	800 GALS. WASH TANK TX-427
428	2	METAL TRANSFER ALIENS
429	1	4" W/BE METAL COLLECTION TOTE W/SCISSOR LIFT OR EQUAL
430	1	50 GPM W/BE TRANSFER PUMP
431	1	W/BE COLLECTION DRUM
432	1	100 GPM W/BE TRANSFER PUMP
433	1	SLUDGE TRANSFER ALIEN
434	1	SLUDGE COLLECTION DRUM W/SCISSOR LIFT OR EQUAL
435	4	1800 Lb. GRANULATED ACTIVATED CARBON VESSELS
436	2	W/BE-OUT DRUMS
437	1	300 GPM BLASER
438	1	200 GPM BLASER
439	1	100 GPM DILUENT FEED/TRANSFER PUMP LOCATED IN EXISTING TANK FARM

ITEM NO.	QTY.	DESCRIPTION
440	1	DRUM FEED ROLLER CONVEYOR
441	1	DRUM LIFT
442	1	DRUM SHREDDER PACKAGE UNIT CONTAINING AIRLOCK CHAMBER, DRUM RAIL, PRIMARY SHREDDER WITH HYDRAULIC RAM, SECONDARY SHREDDER AND ROTARY MAGNET
443	1	NON-DISPENSABLE SOLIDS ALIEN
444	1	4" W/BE NON-DISPENSABLE SOLIDS COLLECTION HOPPER W/SCISSOR LIFT OR EQUAL
445	1	DISPENSABLE LIQUIDS/SOLIDS ALIEN
446	1	4" W/BE DEBRIS COLLECTION TOTE/HOPPER W/SCISSOR LIFT OR EQUAL
447	1	VIBRATORY SHAKER SCREEN-MODEL NUMBER-36-1007
448	1	SLUDGE COLLECTION DRUM W/SCISSOR LIFT OR EQUAL
449	1	METAL COLLECTION DRUM W/SCISSOR LIFT OR EQUAL
450	1	200 GPM FORTING DISPLACEMENT PUMP
451	1	NON-DISPENSABLE DEBRIS COLLECTION DRUM
452	1	200 GPM GRINDER PUMP
453	1	3400 GALLONS HYDRAULIC TX-414
454	1	10,000 GALLONS BLENDING WHITE STORAGE TANK TX-415
455	1	10,000 GALLONS BLENDING WHITE STORAGE TANK TX-416
456	1	15,000 GALS. DILUENT WHITE STORAGE TANK TX-417
457	1	5,000 GALS. METAL WASH SOLVENT TANK TX-418
458	1	100 GPM BLENDING WHITE TRANSFER PUMP

- LEGEND:**
- NORMALLY OPEN VALVE (MANUAL OR MOTORIZED)
  - NORMALLY CLOSED VALVE (MANUAL OR MOTORIZED)
  - ⊕ SELF PRESSURE REGULATING VALVE
  - ⊖ AIR ACTUATED VALVE
  - ⌵ SWING CHECK VALVE
  - ⌵ SOLENOID VALVE
  - ➔ INDICATES DIRECTION OF FLOW
  - MODER
  - ⊞ IN-LINE GRINDER
  - ⊞ POSITIVE DISPLACEMENT PUMP
  - ⊞ CENTRIFUGAL PUMP
  - ⊞ AIR DIAPHRAM PUMP
  - LEVEL SWITCH HIGH
  - LEVEL TRANSMITTER
  - LEVEL ALARM HIGH-HIGH
  - TEMPERATURE INDICATOR
  - PRESSURE INDICATOR
  - NITROGEN PURGE
  - OXYGEN SENSOR

- HEAT SENSOR (2 SENSORS AT EACH LOCATION)
- CARBON DIOXIDE (FOR FIRE SUPPRESSION)
- C.S. CARBON STEEL
- CV CONSERVATION VENT (PRESSURE AND VACUUM)
- EV EMERGENCY VENT FOR PRESSURE RELIEF
- FA FLAME ARRESTOR
- A/S AIR SUPPLY
- ⊞ FLOW ELEMENT
- ⊞ FLOW CONTROLLED VALVE

**NOTES:**

- ALL PIPING IS CARBON STEEL UNLESS OTHERWISE SPECIFIED
- HOSE CONNECTIONS ARE MADE WITH QUICK COUPLING WITH A VALVE ON THE HOSE SIDE. HOSE AND COUPLERS ARE CS/316SS W/PTFE GASKET
- ALL HOSES ARE CHEMICAL RESISTANT RUBBER
- FOR CLARITY, THIS DIAGRAM DOES NOT SHOW RELIEF VENTING OF PIPING SYSTEM AS REQUIRED BY THE CITY OF CHICAGO BUILDING CODE. THE DETAILED PIPING DESIGN AND LAYOUT SHALL INCORPORATE THE RELIEF VENT LINES AND THE "AS-BUILT" DRAWINGS SHALL SHOW THE THE CONSTRUCTED RELIEF VENT LINES SIMILAR TO THE PIPING FOR THE EXISTING TANK FARM.
- PIPING SHOWN IS SCHEMATIC AND SEQUENCE OF BRANCHING/MANFOLDING MAY BE ALTERED DURING DETAILED PIPING LAYOUT.
- TOTES ARE SEALED AGAINST ALIEN DISCHARGE BY SCISSOR LIFTS, UNITS ARE SHOWN SEPARATED FOR CLARITY
- ALL PIPING SYSTEM SHALL BE ABOVE GROUND AND/OR OVERHEAD. PIPING SHALL HAVE ALL WELDED JOINTS AND WELDED FLANGE CONNECTIONS. WHEN NOT WITHIN SECONDARY CONTAINMENT, AND SHALL MEET ALL APPLICABLE REQUIREMENTS OF 40 CFR 284.183(F). ALL PIPING SHALL BE DESIGNED AND INSTALLED PER ASME/ANSI B.31.3
- FOR THE CLARITY, THIS DIAGRAM DOES NOT SHOW RELIEF VENTING OF PIPING SYSTEM AS REQUIRED BY THE CITY OF CHICAGO BUILDING CODE. THE DETAILED PIPING DESIGN AND LAYOUT SHALL INCORPORATE THE RELIEF VENT LINES AND THE "AS-BUILT" DRAWINGS SHALL SHOW THE THE CONSTRUCTED RELIEF VENT LINES SIMILAR TO THE PIPING FOR THE EXISTING TANK FARM.

CHSI DWG. NO. 4286 02/10/00

B	RCRA PERMIT	AAA/A.M.L./A.M.L./2/10/00
A	RCRA PERMIT	AAA/A.M.L./A.M.L./1/10/00

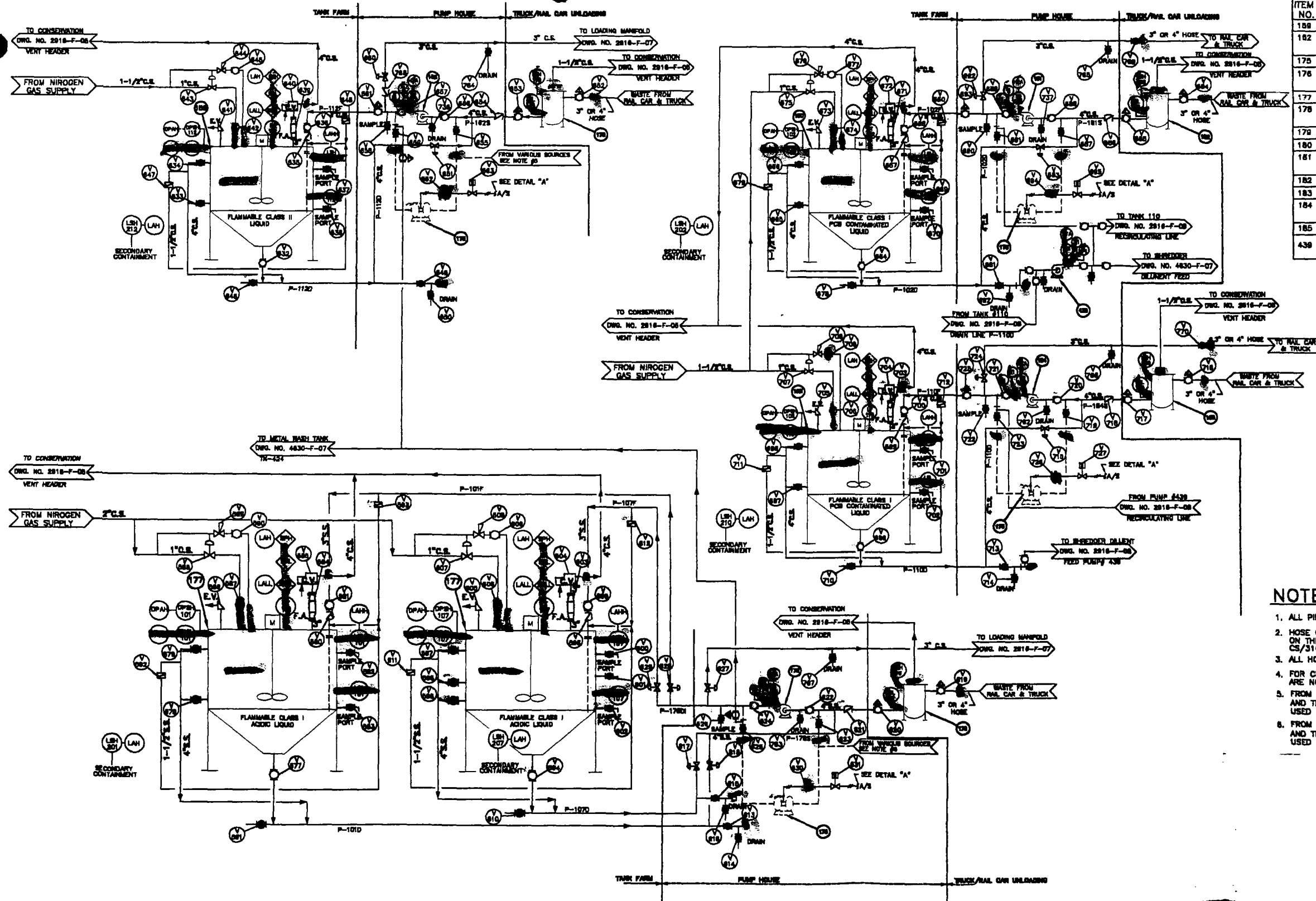
**CleanHarbors**  
ENVIRONMENTAL SERVICES, INC.  
1501 Washington Street  
Braintree, Massachusetts 02185  
Telephone (781) 849-1800

**CLEAN HARBORS SERVICES, INC.**  
11800 S. STONY ISLAND AVENUE  
CHICAGO, ILLINOIS 60617

**PROPOSED PIPING AND INSTRUMENTATION  
DIAGRAM FOR SHREDDING PROCESS**

PROJECT NO.	114630	DRAWING NO.	4630-F-02
SCALE	NONE		





ITEM NO.	QTY.	DESCRIPTION
188	1	18,800 GAL. IGNITABLE WASTE STORAGE TANK - TK-112
182	1	200 GPM RECEIVING PUMP, HORIZONTAL CENTRIFUGAL PUMP WITH OPEN IMPELLER, IRON CONSTRUCTION, DOUBLE MECH SEAL WITH BARRIER FLUID.
175	1	STRAINER FOR TRANSFER PUMP, ITEM #182
176	2	200 GPM PORTABLE TRANSFER PUMP, AIR OPERATED DOUBLE DIAPHRAGM PUMP, CAST IRON HOUSING WITH VITON DIAPHRAGMS.
177	2	12,800 GAL. ACIDIC/IGNITABLE WASTE STORAGE TANK (TK-101 & TK-107)
178	1	200 GPM RECEIVING PUMP, HORIZONTAL CENTRIFUGAL PUMP WITH OPEN IMPELLER, SS316 CONSTRUCTION, DOUBLE MECH SEAL WITH BARRIER FLUID.
179	1	STRAINER FOR TRANSFER PUMP, ITEM #178
180	1	12,800 GAL. PCB WASTE STORAGE TANK - TK-102
181	1	200 GPM RECEIVING PUMP, HORIZONTAL CENTRIFUGAL PUMP WITH OPEN IMPELLER, IRON CONSTRUCTION, DOUBLE MECH SEAL WITH BARRIER FLUID.
182	1	STRAINER FOR TRANSFER PUMP, ITEM #181
183	1	12,800 GAL. PCB WASTE STORAGE TANK - TK-110
184	1	200 GPM RECEIVING PUMP, HORIZONTAL CENTRIFUGAL PUMP WITH OPEN IMPELLER, IRON CONSTRUCTION, DOUBLE MECH SEAL WITH BARRIER FLUID.
185	1	STRAINER FOR TRANSFER PUMP, ITEM #184
439	1	150 GPM DILUENT FEED/TRANSFER PUMP FOR PROPOSED SHREDDING SHREDDING SYSTEM

#### NOTES:

- ALL PIPING IS CARBON STEEL UNLESS OTHERWISE SPECIFIED.
- HOSE CONNECTIONS ARE MADE WITH QUICK COUPLERS WITH A VALVE ON THE HOSE SIDE. HOSE CONNECTIONS ARE CS/316SS W/WHITE GASKET.
- ALL HOSES ARE CHEMICAL RESISTANT REINFORCED RUBBER.
- FOR CLARITY, [REDACTED] AND [REDACTED] ARE NOT SHOWN.
- FROM HOSE CONNECTION OF DRAIN MANIFOLD OF TANKS #TK-101, TK-107, TK-109 AND TK-103 THRU TK-106. FOR TANK TO TANK TRANSFER, THIS CONNECTION TO BE USED FOR ADDITION OF ANTIFOAM AND IMULSIFIER AGENTS INTO THE TANK.
- FROM HOSE CONNECTION OF DRAIN MANIFOLD OF TANKS #TK-112, TK-108 AND TK-103 THRU TK-106. FOR TANK TO TANK TRANSFER, THIS CONNECTION TO BE USED FOR ADDITION OF ANTIFOAM AND IMULSIFIER AGENTS INTO THE TANK.

CHSI DWG. NO. 4207

02/9/00

REV	DESCRIPTION	BY	CHK	APP	DATE
1	SEE REVISION NOTE 1	A.A.A.	A.M.L.		2/9/00
0	AS BUILT	B.H.P.	B.H.P.		7-24-99
C	SEE REVISION NOTE C				
B	SEE REVISION NOTE B				
A	RCRA PART B MODIFICATION				

**CleanHarbors**  
ENVIRONMENTAL SERVICES, INC.

1801 WASHINGTON STREET  
BRIGHTON, MASSACHUSETTS 02114  
Telephone: (781) 848-1200/1800

CLEAN HARBORS SERVICES, INC.  
11800 S. STONY ISLAND AVENUE  
CHICAGO, ILLINOIS 60617  
**PROCESS FLOW, PIPING & INSTRUMENTATION  
DIAGRAM - TANK FARM OPERATION  
SHEET 5 OF 5**

PROJECT NO.	GW-5404	DRAWING NO.	2916-F-08
SCALE	NONE		

SUBMIT 7 BB

#### LEGEND

- MAN OPERATED ON-OFF VALVE (NORMALLY OPEN)
- MAN OPERATED ON-OFF VALVE (NORMALLY CLOSED)
- MAN OPERATED ON-OFF VALVE WITH REMOTE POSITION INDICATOR
- SEMI CHECK VALVE
- AIR ACTUATED VALVE
- SOLVED VALVE
- SELF PRESSURE REGULATING VALVE
- MIER
- INDICATED DIRECTION OF FLOW
- HOSE CONNECTION

- AOV A/S C.V. E.V. F.A. C.S. S.S.
- AIR OPERATED VALVE
- CONSERVATION VENT (PRESSURE & VACUUM)
- EMERGENCY VENT FOR PRESSURE RELIEF
- FLAME ARRESTER
- CARBON STEEL
- STAINLESS STEEL
- DIFFERENTIAL PRESSURE SWITCH
- LOW PRESSURE ALARM
- HIGH PRESSURE ALARM
- LEVEL ALARM HIGH
- LEVEL ALARM HIGH-HIGH
- LEVEL ALARM LOW-LOW

- LEVEL SWITCH HIGH
- LEVEL SWITCH LOW
- LEVEL TRANSMITTER - CONTINUOUS
- SET POINT - L.L. (LOW-LOW LEVEL)
- L. (LOW LEVEL)
- H. (HIGH LEVEL)
- TEMPERATURE INDICATOR
- HIGH TEMPERATURE ALARM
- SAFETY PRESSURE RELIEF
- SAFETY PRESSURE RELIEF VALVE

- PORTABLE AIR OPERATED DOUBLE DIAPHRAGM PUMP
- CENTRIFUGAL PUMP
- PRESSURE INDICATOR

BOYER-SCHLUBINGER-TURNER, INC.  
CONSULTING ENGINEERS  
300 WEST ALABAMA STREET  
CHICAGO, ILLINOIS 60601  
PHONE: 312-467-1100



SERVICES, INC.

11800 SOUTH STONY ISLAND AVENUE • CHICAGO, IL 60617

(773) 646-6202 • FAX (773) 646-6381

Visit our Website at [www.cleanharbors.com](http://www.cleanharbors.com)

January 10, 2001

Mr. James Blough  
U.S. Environmental Protection Agency  
RCRA Permit Section, DW-8J  
77 West Jackson Boulevard  
Chicago, IL 60604-3590

Dear Mr. Blough:

Clean Harbors Services, Inc. (CHSI) is submitting the additional information you requested concerning the hazardous waste shredding system permit modification.

CHSI intends to use a flame ionization detector (MicroFID or equivalent) to monitor the carbon adsorption systems for when control devices will not reduce the inlet vapor stream by 95%. CHSI reserves the right to use a detection instrument which meets the performance criteria of Reference Method 21 (40 CFR Part 60).

If you have any further questions concerning this application, please contact me at (773) 646-6202, x233.

Sincerely,

James R. Laubsted  
Facility Compliance Manager

cc: Robert Tekach, CHSI



11800 S. Stony Island Avenue - Chicago, Illinois 60617

# FAX

Transmittal Memo

Date: 01/18/01  
 Number of pages including cover sheet: 4

To: JIM BLOUGH  
USEPA

Phone:

Fax#: 312-353-4788

CC:

From: JIM LAURETTO

Phone:

Fax#: 773-646-6381

REMARKS:

☐

Urgent

☒

For your review

☐

Reply ASAP

☐

Please comment

"People and Technology Creating a Better Environment"



CLEAN HARBORS SERVICES, INC.

11800 SOUTH STONY ISLAND AVENUE • CHICAGO, IL 60617

(773) 646-6202 • FAX (773) 646-6381

September 15, 2000

Visit our Website at [www.cleanharbors.com](http://www.cleanharbors.com)

Mr. James Blough  
U.S. Environmental Protection Agency  
RCRA Permit Section, DW-8J  
11 West Jackson Boulevard  
Chicago, IL 60604-3590

Dear Mr. Blough:

Clean Harbors Services, Inc. (CHSI) is submitting the additional information you requested concerning the hazardous waste shredder system permit modification. Enclosed is the design analysis for the air pollution control system and diagrams showing flow rates through the system. I have also enclosed information on the Envirotrol carbon beds.

There will not be any vent hoods used to capture emissions vented to the carbon adsorption systems. Emissions will be collected with closed vent systems (piping/ducting) connecting the emission source with the carbon adsorption systems. These are shown on the process flow diagram CHSI Drawing No. 4286.

The carbon adsorption systems consist of two beds in series. The beds will be monitored each day the units are operating. The system will be monitored before the first carbon bed, between the first and second carbon beds, and after the second carbon bed. If the first bed does not reduce the inlet vapor stream by 95%, the bed will be switched out within 24 hours. The second bed will be switched to the first bed and a new second bed will be added.

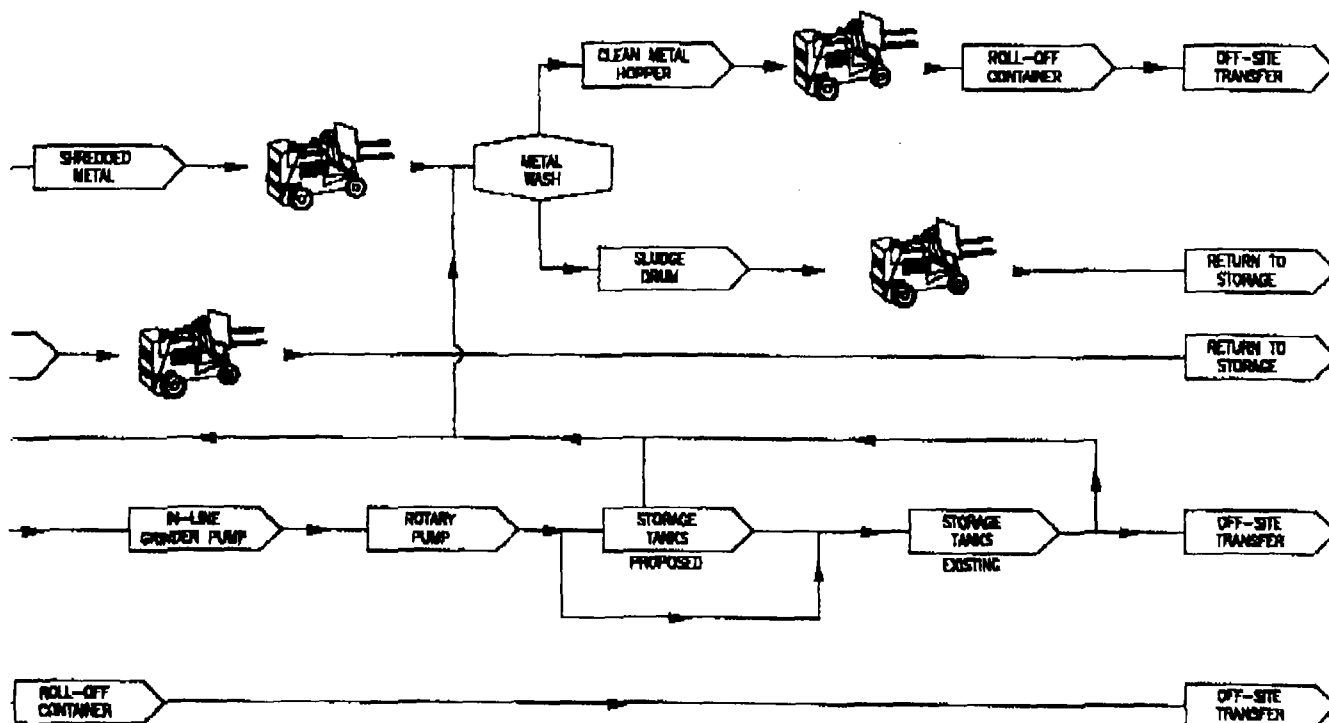
CHSI intends to use carbon beds manufactured by Envirotrol. After the beds are spent (as determined by above monitoring), CHSI intends to ship these beds off-site to Envirotrol, Inc. in Darlington, PA for regeneration. Although CHSI intends to use these beds and regeneration site, CHSI reserves the right to use equivalent beds, other regeneration sites or other management of spent carbon as indicated in Attachment 22 of the permit application.

If you have any further questions or require additional information, please contact me at (773) 646-6202.

Sincerely,

A handwritten signature in dark ink, appearing to read "James R. Laubsted".

James R. Laubsted  
Facility Compliance Manager



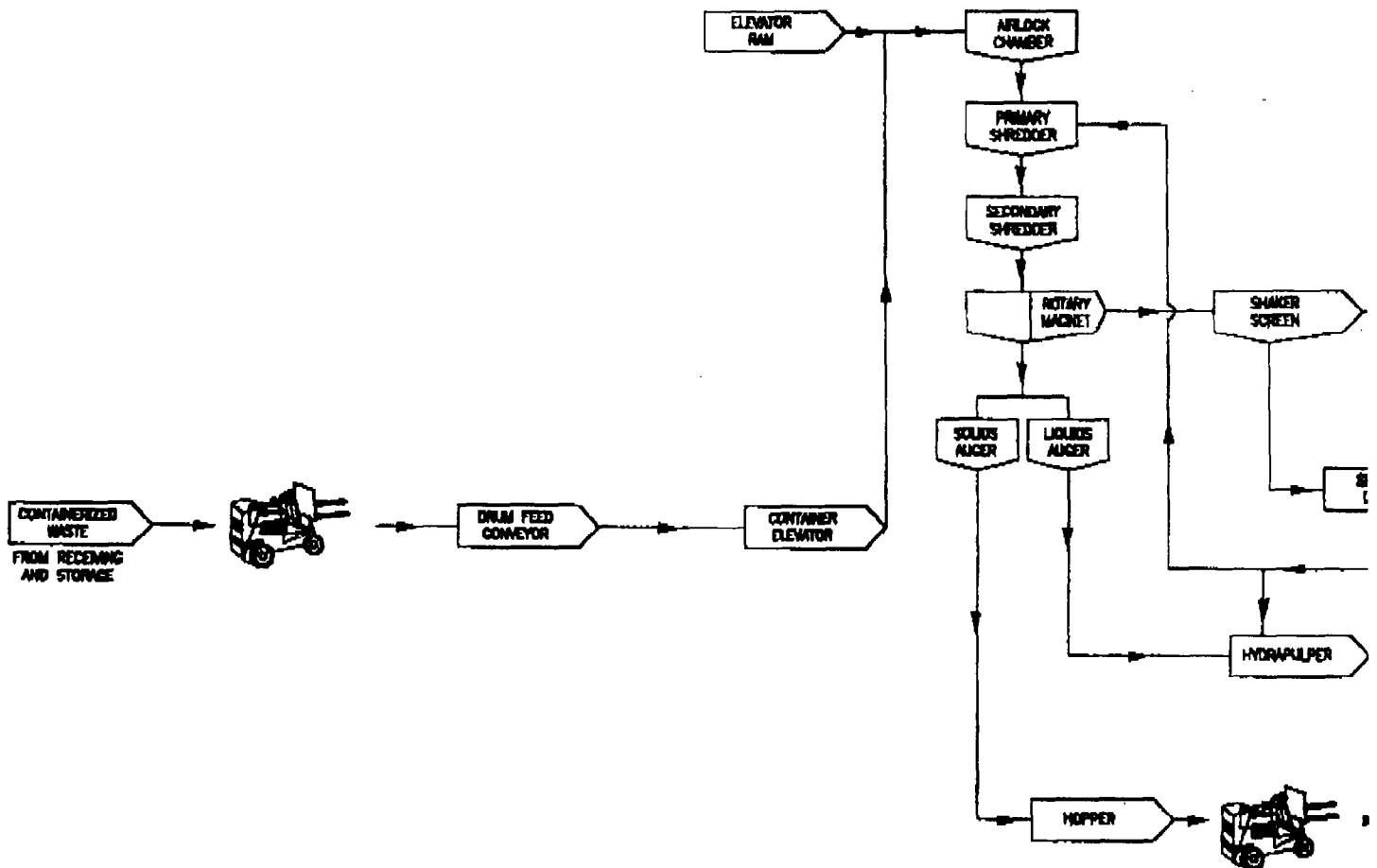
01/18/00

CHSI DWG. NO. 4285

A	RCRA PERMIT	AA	ALL	ALL	ALL	ALL
DATE	DESCRIPTION	DATE	DATE	DATE	DATE	DATE
<p><b>CleanHarbors</b> ENVIRONMENTAL SERVICES, INC.</p> <p>1501 Washington Street Oakbrook, Illinois 60180 Telephone (781) 848-1800</p>						
<p><b>CLEAN HARBORS OF CHICAGO, INC.</b> 11800 S. STONY ISLAND AVENUE CHICAGO, ILLINOIS 60617</p>						
<p><b>PROPOSED BLOCK FLOW DIAGRAM FOR SHREDDING PROCESS</b></p>						
PROJECT NO. CH114630		DRAWING NO.				
SCALE NONE		4630-F-01				



**BOYER-SCHINDLER-TURNER, INC.**  
CONSULTING ENGINEERS  
200 WEST MONROE STREET  
CHICAGO, ILLINOIS 60604  
PHONE 312-587-1000





**Clean Harbors**  
**ENVIRONMENTAL SERVICES, INC.**

11800 SOUTH STONY ISLAND AVENUE • CHICAGO, IL 60617

(773) 646-6202 • FAX (773) 646-6381

December 15, 2000

Visit our Website at [www.cleanharbors.com](http://www.cleanharbors.com)

*Am-IL  
12/15/00*

Mr. James Blough  
U.S. Environmental Protection Agency  
RCRA Permit Section, DW-8J  
77 West Jackson Boulevard  
Chicago, IL 60604-3590

Dear Mr. Blough:

Clean Harbors Services, Inc. (CHSI) is submitting the additional information you requested concerning the hazardous waste shredder system permit modification. Enclosed is the design analysis for the air pollution control system and diagrams showing flow rates through the system. I have also enclosed information on the Envirotrol carbon beds.

There will not be any vent hoods used to capture emissions vented to the carbon adsorption systems. Emissions will be collected with closed vent systems (piping/ducting) connecting the emission source with the carbon adsorption systems. These are shown on the process flow diagram CHSI Drawing No. 4286.

The carbon adsorption systems consist of two beds in series. The beds will be monitored each day the units are operating. The system will be monitored before the first carbon bed, between the first and second carbon beds, and after the second carbon bed. If the first bed does not reduce the inlet vapor stream by 95%, the bed will be switched out within 24 hours. The second bed will be switched to the first bed and a new second bed will be added.

CHSI intends to use carbon beds manufactured by Envirotrol. After the beds are spent (as determined by above monitoring), CHSI intends to ship these beds off-site to Envirotrol, Inc. in Darlington, PA for regeneration. Although CHSI intends to use these beds and regeneration site, CHSI reserves the right to use equivalent beds, other regeneration sites or other management of spent carbon as indicated in attachment 32 of the permit application.

If you have any further questions or require additional information, please contact me at (773) 646-6202.

Sincerely,

James R. Laubsted  
Facility Compliance Manager

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The tanks involved with the shredding system, tankfarm and metalwash system are fixed roof tanks with organic vapors routed through closed-vent systems to carbon adsorption control devices that provide a minimum organic removal efficiency of 95%. Valves, pumps, conservation vents, flame arrestors, agitator seals, emergency vents require initial and continuing visual and instrument monitoring to assure these operate with "no detectable organic emissions" and repair. Other connections such as flanges and seals such as hatches, caps, guages, instrument nozzles and blind flanges are subject to initial instrument monitoring and initial and continuing visual monitoring for "no detectable organic emissions" and repair. These require additional instrument monitoring each time they are opened. First repairs must be attempted within 5 days of detection with repair completed with 15 days detection. Instrument monitoring is completed using a Flame Ionization Detector.

Containers to be processed in the operations will vary in size. Those containers of less than 26 gallon capacity are not subject to Subpart CC. Larger capacity containers (to 119 gallon capacity) and those used to collect waste after processing must meet applicable US DOT regulations on packaging hazardous materials for transportation (49 CFR 178). Covers are removed from containers as they are loaded onto the elevator for the shredding operation. Shredded metal and other shredding contaminants are collected in drums and non-dispersible shredded materials collected in a hopper. Scissor-lifts connect the drums and hopper to the shredder when filling. The cover and closure device will be secured promptly upon conclusion of the filling operation. The drums will be rerouted to the shredder or routed to the metalwash operation. The hopper will be dumped into a roll-off container on Unit 69. The roll-off is equipped with a cover and closure device to form a continuous barrier over the container openings. The covers will remain closed and secure at all times except when adding or removing waste or other materials. A visual inspection looking for cracks, holes, gaps or open spaces into the interior of the container will be performed. Any container in storage for more than one year will be visually reinspected. For containers with a design capacity exceeding 119 gallons capacity and containing a waste that is "in light material service", the container will be monitored for all closures with a photoionization detector or similar instrument to confirm it operates "with no detectable organic emissions". The shredder, tankfarm and metalwash operations are connected to closed vent systems to route gases, vapors and fumes from the hazardous waste to control devices designed and operated to reduce the total organic content of the inlet vapor stream by at least 95% by weight. The closed vent system is designed and will be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppmv above background as determined by the procedure in 40 CFR 264.1034(b) and by visual inspections.



The initial leak detection monitoring will be conducted on or before the unit becomes operational for all closed-vent system joints, seams or other connections that are permanently or semi-permanently sealed. After initial leak detection monitoring, the unit will be inspected and monitored as follows:

Closed-vent system joints, seams or other connections that are permanently or semi-permanently sealed shall be visually inspected annually for defects which could result in air emissions. Defects include, but are not limited to, visible cracks, holes, gaps or loose connections. If any component is repaired or replaced or the connection is resealed, the component or connection will be monitored using the procedures specified in 40 CFR264.1034(b) to demonstrate that it operates with no detectable emissions.

Detectable emissions, as indicated by visual inspections, or by an instrument reading greater than 500 ppmv above background, will be controlled as soon as practicable, but no later than 15 calendar days after the emission is detected. A first attempt at repair shall be made no later than 5 calendar days after the emission is detected.

The closed vent systems and carbon adsorption systems will be operated at all times when emissions are vented to them.

A design analysis which demonstrates the carbon beds will reduce the total organic content of the inlet vapor stream by 95% is attached. The operating parameters in this analysis represent operating conditions at the highest load or capacity level expected to occur.

A flow indicating sensor will be installed to provide a record of the vent stream flow in each closed-vent system at least once an hour. A pressure measurement device will be installed in a readily accessible location to verify that the negative pressure is being maintained in each closed-vent system when operating.

The closed vent systems will not include any bypass devices that could be used to divert the gas or vapor stream to the atmosphere before entering the control device. Low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, spring loaded pressure relief valves and other fittings used for safety purposes are not considered bypass devices.

Carbon adsorption systems will be used as the control device for the shredding operation and tankfarm/metalwashing operations. During periods of planned routine maintenance or a control device system malfunction, the control device is not required to reduce the amount of total organic content of the

inlet vapor stream by 95%. Periods of planned routine maintenance will not exceed 240 hours annually. This will be recorded on a semiannual basis describing the type of preventive maintenance necessary for the next six months, planned frequency of maintenance, and lengths of maintenance periods. The report will also describe planned routine maintenance during the previous six months including type of maintenance performed and total number of hours during the six months the control device did not reduce the total organic content of the inlet vapor stream by 95% during planned routine maintenance. Control device system malfunctions will be corrected as soon as practicable after occurrence in order to minimize excess air pollutant emissions. Gases, vapors and fumes will not be actively vented to the control device during periods of planned routine maintenance or control device system malfunction except when necessary to vent the gases, vapors and/or fumes to avoid an unsafe condition or to implement malfunction corrective actions or planned maintenance actions.

After initial start-up of the carbon adsorption system, all activated carbon will be replaced with new carbon within 24 hours of when monitoring indicates the control device did not reduce the inlet vapor stream by 95%. Monitoring will be conducted each day the units operate.

Manifests for shipments of spent carbon will be maintained at the facility. No spent carbon will be regenerated or disposed on-site. All carbon removed from the control devices will be managed per the requirements of 40 CFR 264.1034 below:

- 1) Regenerated/reactivated in a Subpart X unit;
- 2) Incinerated as a hazardous waste;
- 3) Burned in an industrial furnace or boiler.

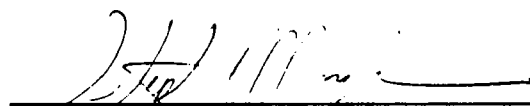
Records will be maintained at the facility including design documentation, monitoring, operating and inspection information for the closed-vent system and carbon adsorption system. This will include:


- 1) Description and date of each modification;
- 2) Identification of operating parameters, description of monitoring device and diagram of monitoring location, and daily inspection for flow indication;
- 3) Monitoring inspections of carbon adsorption systems including date and time of monitoring and reading, carbon system start-up and shutdowns, records of management of carbon including carbon changes and off-site shipments;

- 4) Monitoring inspections of closed-vent systems including visual and instrument for initial and continuing operation, and negative pressure indicators;
- 5) Records of defects or leaks found, repairs made of the closed vent systems including instrument identification number, component identification number, operator's identification, dates of leak detection, first repair attempt, successful repair, successful repair reading, repair delays and justification;
- 6) Date, time and duration of each period the carbon system is operating below 95% reduction of total organic content of the inlet vapor stream.

A semiannual report will be submitted to the Regional Administrator detailing dates the carbon adsorption system operated below 95% reduction of total organic content of the inlet vapor stream and the carbon bed was not replaced within 24 hours. If the carbon beds are replaced within 24 hours during the six month period, no report is necessary.

I hereby certify as Facility Owner/Operator that the carbon adsorption bed system control device is designed to operate at an efficiency of 95% or greater reduction of total organic concentration from the closed vent system associated with the hazardous waste shredder and the closed vent system associated with the metalwashing/tankfarm as demonstrated by the attached design analysis. This design analysis considers vent stream composition, constituent concentrations, flow rate, relative humidity and temperature. This design analysis establishes the design outlet organic concentration level, capacity of the carbon bed, type and operating capacity of the activated carbon and design carbon replacement interval based on the total carbon working capacity and the hazardous waste shredder and metalwashing/tankfarm operating schedules. I also certify that the operating parameters used in this design analysis reasonably represent the conditions that exist when the hazardous waste shredder and metalwashing/tankfarm would be operating at the highest load or capacity level reasonably expected to occur.

  
\_\_\_\_\_  
Signature

  
\_\_\_\_\_  
Date

Stephen H. Moynihan, Senior Vice-President  
Clean Harbors Services, Inc.

111  
Apr-05

APPLICATION FOR  
CLASS 3 PERMIT MODIFICATION

I. OWNER/OPERATOR INFORMATION

Operator: Clean Harbors Services, Inc.  
Facility Address: 11800 South Stony Island Avenue  
Chicago, IL 60617

EPA ID No: ILD000608471

Facility Contact: James R. Laubsted  
(773) 646-6202

II. FOR MORE INFORMATION REGARDING THIS APPLICATION, CONTACT:

Clean Harbors Services, Inc.  
11800 South Stony Island Avenue  
Chicago, IL 60617  
Jim Laubsted - Facility Compliance Manager

III. FACILITY DESCRIPTION

Clean Harbors Services, Inc. (CHSI) operates a hazardous waste treatment and storage facility under the terms of RCRA Part B Permit No. B-16 issued by the Illinois Environmental Protection Agency (IEPA) and United States Environmental Protection Agency on November 4, 1993.

CHSI utilizes a variety of waste handling operations to treat hazardous and non-hazardous wastes onsite, and to store/transfer such wastes, including treatment residuals, for approved offsite reuse, treatment and/or disposal. Wastes are accepted in bulk tanker, railcar, rolloff, and container (e.g., 55-gallon drum) form, and may be liquid, semisolid, and/or solid in nature.

CHSI's waste handling operations include:

1. Storage and primary physical/chemical treatment of aqueous-based, inorganic hazardous and non-hazardous industrial waste streams using chemical precipitation, coagulation, filtration, stabilization, and/or fixation;
2. Storage and liquid waste pretreatment (prior to primary treatment) utilizing neutralization, chemical oxidation, chemical reduction, and other methods such as organic stripping;
3. Storage and blending of hazardous waste for reuse as a supplemental hazardous waste fuel;

4. Storage and transfer of hazardous wastes using tanks and containers; and
5. Specialized waste treatment activities in tanks and/or containers such as phase separation of liquid aqueous/organic layers in tanks, separation of solid/liquid layers in corrosive wastes to remove D002 designation; and
6. Treatment of paints and paint related materials through compaction in a miscellaneous unit.

The waste streams currently authorized for storage and/or treatment at CHSI include: ignitable (D001); corrosive (D002); reactive (D003); and toxic (D004-D043) wastes; and many F-, K-, P- and U-coded wastes.

#### IV. DESCRIPTION OF PROPOSED MODIFICATION

Under this Class 3 modification request, CHSI seeks authorization to make the following changes:

1. Addition of a bulk flammable liquid tankfarm;
2. Addition of a truck loading/unloading pad for two trucks next to the proposed bulk liquid tank farm;
3. Addition of a hazardous waste shredding system; and
4. Addition of a metalwashing system.

Each of the additions will function as a multicomponent system designed to shred full or partially full containers of waste (principally 55-gallon steel drums), separate out the resulting metal container fragments and blend the contents into pumpable slurries or non-dispersable bulk solids. The system will be used primarily to blend organic liquid, semi-solid and solid materials. The proposed modifications will increase tank storage at the facility by 51,006 gallons and container storage at the facility by 14,400 gallons (two-7200 gallon tankers). A modified site plan (CHSI Drawing No. 4204B, Sheet 2 of 3) is included as Attachment 1. A proposed Piping and Instrumentation Diagram for the shredding process (CHSI Drawing No. 4286) is included as Attachment 2. A proposed block flow diagram for the shredding process (CHSI Drawing No. 4285) is included as Attachment 3. An equipment layout (CHSI Drawing No. 4287) is included as Attachment 4. These modifications are discussed in detail in Section V below.

V. Under this modification, CHSI seeks authorization to add a bulk flammable liquid tank farm located outdoors in Unit 22 with a tank storage capacity of 42,799 gallons. This includes the following four tanks:

1. Tk-415 10,558-gallon blended liquid storage tank
2. Tk-416 10,558-gallon blended liquid storage tank
3. Tk-417 15,547-gallon diluent feed tank
4. Tk-418 6,136-gallon metalwash solvent storage tank

Tk-415 and Tk-416 will be constructed from carbon steel as dish bottom tanks and have an operating capacity of 10,000 gallons each. These tanks will be used for storage of blended liquid from the shredding system or diluent to be fed to the shredding system. Design details are provided on CHSI Drawing No. 4294 which is included as Attachment 5.

Tk-417 is an existing tank in Unit 22. A professional engineering assessment of the structural integrity of the tank is included as Attachment 6. The tank will be used to store hazardous waste diluent to be fed to the shredding system and has an operating capacity of 15,000 gallons. The tank may also be used for storage of blended liquid from the shredding system. The tank is constructed of carbon steel. Design details are provided on CHSI Drawing No. 4295 which is included as Attachment 7.

Tk-418 will be constructed from carbon steel as a dish bottom tank and has an operating capacity of 6000 gallons. This tank will be used for storage of solvents (typically chlorinated) for use in the metalwash system. Design details are provided on CHSI Drawing No. 4296 which is included as Attachment 8.

The floor/dike surface in Unit 22 shall be modified to provide an individual concrete secondary containment basin for each tank. Structural design for the tank farm foundation, engineering design calculations and containment capacity calculations for each tank are included on CHSI Drawing No. 4291 which is included as Attachment 9. The floors and internal walls of the modified dike shall be coated with a minimum 30 to 40 mil coat of Protecto-Coat 900, a vinylester-based sealant manufactured by Dudick, Inc., or equivalent system. Technical specifications for the Protecto-Coat system are included in Appendix D-10, Data Sheet #2.

A listing of the approved and proposed tanks, and a summary of pertinent physical data, is included in Table D-5. The physical data listed on Table D-5 includes:

- Tank identification number and name;
- Design capacity, outer dimensions, design standard/code, and operating capacity;
- Material of construction, type of foundation, and internal corrosion protection; and
- Secondary containment features.

Pertinent operating data for each tank is presented in Table D-6, and includes:

- Tank identification number and primary use;
- Operating temperature and pressure;
- Tank vent type and size;
- Waste characteristics (pH and specific gravity); and
- Feed system, safety cutoff and overflow protection devices.

The proposed tank farm will connect through piping with the existing tank farm to allow transfer of wastes between tank farms. The piping route is shown on CHSI Drawing Nos. 4286, 4293 and 4207 (Sheets 4 & 5 of 5) which are included as Attachments 2, 10 and 11 respectively. Initially, CHSI intends to utilize the existing tank farm (Unit 16) for the shredding/metalwash operations. Tanks 103, 104, 105, 106, and 109 will also be used for storage of blended fuels from the shredding/hydropulpar process. Tanks 102 and 110 will also be used for diluent storage and feed to the shredding system. Tanks 101, 107 and 112 will also be used for metalwash solvent storage. Appendix D-1 has been modified to reflect these changes. X

Each tank will be nitrogen blanketed to eliminate the potential for fires or explosion. Each tank will vent to the carbon adsorption system to control organic air emissions. Each tank will be fitted with individual conservation vents, individual flame arrestor and individual emergency vents. The tanks will be operated at ambient temperature and maintained under positive pressure of approximately 2 inches water column. Each tank is equipped with a continuous microwave-type liquid level monitor which is electronically connected to a high level alarm system and automatic feed cutoff. In addition, each tank is equipped with a motorized mechanical agitator/mixer to maintain a consistent blended liquid product inside each tank.

In accordance with the requirements of 35 IAC 724.292 and 724.293, a qualified, registered professional engineer has reviewed and certified (sealed) the structural integrity and suitability of the proposed tanks, ancillary equipment and modified secondary containment. These certifications are provided as Attachment 33.

Each carbon steel tank shall be externally coated with a weather resistant epoxy base paint to a minimum 6-mil dry film thickness to prevent corrosion of the external surface.

CHSI also proposes to add a truck loading/unloading pad (Unit 69) for two trucks located outside on the north side of the proposed tank farm (Unit 22). This pad will be used for waste loading/unloading (tank trucks and containers) from Unit 22, the shredding system or the metalwash system; loading and storage of hazardous waste debris roll-offs and storage of hazardous waste transportation vehicles. The truck/roll-off loading/unloading pad is shown on CHSI Drawing No. 4292 which is included as Attachment 12. A maximum of 14,400 gallons (two 7200 gallon tanker trucks) may be stored on this pad. Each tanker truck can also be substituted for storage of one roll-off container, van trailer or other transportation vehicle; or containers to be pumped



to the proposed tank farm (Unit 22). The concrete pad has a containment capacity of 14,740 gallons and will be sealed with a 30 to 40 mil coat of Protecto-Coat 900 or equivalent in accordance with the manufacturer's recommendations. The design of the proposed truck/roll-off loading/unloading pad and containment calculations are certified by a licensed professional engineer registered in Illinois and is included in Attachment 13. Organic emissions from loading tankers will be captured and controlled through the carbon adsorption system.

Units 22 and 69 will be equipped with a foam fire protection system which meets the requirements of NFPA and the city of Chicago.

CHSI also seeks authorization to add a hazardous waste shredding system. This operation will be located in two buildings, Units 24 and 42. The structural design drawing CHSI Drawing No. 4289) and engineering calculations of the foundation for the shredder and Building 42 layout (CHSI Drawing No. 4287) are included as Attachments 14, 15 and 4 respectively. The shredder building elevation (CHSI Drawing No. 4288) is included as Attachment 16. This system will be used to shred wastes in drums and disperse these into pumpable liquids or to shred non-dispersible solids. The main components are the shredding tower and hydropulpar tank.

Containers will be transferred using forklifts from Unit 61 across a metal ramp in Unit 62 and through a contained area to Building 42. Details of these areas are included on CHSI Drawing Nos. 4287 and 4289 (included as Attachments 4 and 14). CHSI will utilize the permitted drum storage of 28 drums in Building 42 and 24 drums on the westside pad. For processing, containers are moved via roller conveyors to the container elevator and again conveyed into the inlet hopper of the shredder. The shredder operates on a batch basis, typically two 55-gallon containers at one time. The containers are placed into the hopper inlet which is then purged with nitrogen along with the primary shredder shear chamber. The containers are dropped into the primary shredder which uses low-speed shear action to puncture the waste containers, free the contained liquid, semi-solid and solid waste materials, and reduce the container carcass to small pieces. Low viscosity liquids from the bulk flammable liquid tank farm are also added to assist the flow of the shredded materials. These materials are further sized through the secondary low-speed, shear-type shredder. Shredded metal from containers are captured using a rotary magnet. In dispersible materials operation, this metal drops onto a vibratory shaker screen to further remove contaminants from the shredded metal fragments. One drum collects shredded metal (for metalwashing) and another collects the contaminants (rerouted to the shredder).

In dispersible materials operation, decontainerized wastes are conveyed through a feed chamber for the dual screw auger to the hydropulpar tank (Tk-414). At times low viscosity liquids from the bulk flammable liquid tank farm are added to the hydropulpar tank to adjust the end product. The hydropulpar tank blends with a rotating blade at the bottom of the tank to mix materials into a thick flowable liquid. This blended material is transferred through an in-line

grinder to the bulk flammable tank farm.

In non-dispersible materials operation, shredded materials are conveyed through the dual screw auger on the opposite side of the hydropulpar by reversing the auger direction. This material is loaded into a covered hopper which when full is emptied into a roll-off for off-site shipment.

Detailed operations descriptions, manufacturer's literature and system operating manual are included as Attachment 17.

The shredder will have a maximum capacity of 48,000 pounds per hour and an average capacity of 30,000 pounds per hour. This unit is shown on CHSI Drawing No. 4288. During operation, the shredding tower will utilize nitrogen to create an inert atmosphere. Throughout the dual stacked shredder system, oxygen sensors will be strategically located to limit operation to oxygen concentrations of 4% to 8%. These sensors will be monitored by a computer controlled logic system which will automatically flood the system with nitrogen when higher levels of oxygen are detected. Manual stations can also flood the entire system with nitrogen. The shredding tower is also equipped with a carbon dioxide fire suppression system which operates automatically by high temperature or manually by push button. A deflagration system will also be installed to monitor pressure changes in the system and automatically trigger explosion controls. This automatic system utilizes dry chemical extinguishing agent and can also be manually operated.

The shredding system uses access limit switches to prevent the system from operating if doors or ports are not fully closed. Also, the system will not operate when tank high level alarms are activated, the carbon adsorption system is not operating or collection drums/hoppers are not secured in place.

The hydropulpar tank (Tk-414) will be constructed from carbon steel and have an operating capacity of 2500 gallons and a total capacity of 3490 gallons. Design details are provided on manufacturer's drawings included as Attachment 18. A summary of pertinent physical data is included on Table D-5. Pertinent operating data is included in Table D-6. This tank is nitrogen blanketed and vents to a carbon adsorption system (same as bulk flammable liquid tank farm). The tank is vented through a flame arrestor and emergency vent. The tank is also equipped with a liquid level point monitor which is electronically connected to a highlevel alarm system.

The floor/dike surface in Units 24 and 42 shall be coated with a minimum 3/16 inch coat of Protecto-Crete 900, a vinylester-based sealant manufactured by Dudick, Inc., or equivalent system. Technical specifications for the Protecto-Crete system are included in Appendix D-10, Data Sheet #12. Containment capacity calculations are included on CHSI Drawing No. 4287.

In accordance with the requirements of 35 IAC 724.292, a qualified, registered professional engineer has reviewed and certified

(sealed) the structural integrity and suitability of the proposed unit, tanks, ancillary equipment and secondary containments. These certifications are provided in Attachment 33.

Building 24 is equipped with an automatic foam/water sprinkler system which can also be manually activated. Manual hose stations are located at the base of the shredding system and system entrance.

CHSI also seeks authorization to add a metalwash system located outdoors in Unit 68. The system will be utilized to clean shredded metal fragments from the shredding system and off-site generated metal which can be reclaimed after cleaning. The system includes:

- 1) a feed hopper into which metal fragments are dumped;
- 2) a screw auger to convey metal fragments to the metalwash tank;
- 3) a metalwash tank including auger that moves metal through the tank;
- 4) a screw auger to convey metal fragments to the rinse tank;
- 5) a screw auger to remove sludge from the metalwash tank;
- 6) a rinse tank
- 7) a screw auger to convey metal fragments to the clean metal hopper; and
- 8) a clean metal hopper

Cleaned metal will be transferred to a roll-off container located on Unit 60. The cleaned metal will be sent off-site for reclamation.

The metalwash tank (Tk-424) has a capacity of 3,730 gallons and a rinse tank (Tk-427) has a capacity of 987 gallons. Both tanks are constructed of carbon steel and will be externally coated with a water resistant epoxy base paint to a minimum 6-mil dry film thickness to prevent corrosion of the external surface. Design details are provided on CHSI Drawing Nos. 4297 and 4298 included as Attachment 19. Design details and secondary containment capacity calculations for Unit 68 are included on CHSI Drawing No. 4290 which is included as Attachment 20. The floor and internal walls of Unit 68 shall be coated with a minimum 3/16 inch coat of Protecto-Crete 900, a vinylester-based sealant manufactured by Dudick, Inc., or equivalent system. Technical specifications for the Protecto-Coat system are included in Appendix D-10, Data Sheet #12.

A list of the proposed tanks and summary of pertinent physical data is included in Table D-5. Pertinent operating data for each tank is included in Table D-6.

The metalwash tank will be nitrogen blanketed to eliminate the potential for fires or explosion. The feed and discharge hoppers will vent to the carbon adsorption system (same as the bulk flammable liquid tank farm) to control organic air emissions.

In accordance with the requirements of 35 IAC 724.292, a qualified registered professional engineer has reviewed and certified (sealed) the structural integrity and suitability of the proposed tanks, ancillary equipment and secondary containment. These certifications

are provided in Attachment 33.

CHSI Drawing No. 4249 (Sheet 2 of 2) has been revised for traffic patterns and is included as Attachment 21.

A discussion of the impact of the additions of a bulk flammable liquid tank farm, truck loading/unloading pad for two trucks, hazardous waste shredding system and metalwashing system on the existing RCRA Part B management plans and operating procedures at CHSI is described below.

1. RCRA Part A Application (35 IAC 703.181) - The permitted storage capacity of the treatment processes and storage units increases by 51,006 gallons (tanks) and 14,400 gallons (containers). New shredding hazardous waste codes are proposed in this modification. A revised RCRA Part A application increasing the storage capacity, adding a process capacity and shredding waste codes is included as Attachment 22.
2. Use and Management of Containers 35 IAC 703.201 - Waste streams which will be managed in the shredding system, metalwash system and tank farm will be accepted, treated and stored in containers (e.g., 55-gallon drums or smaller, 110-gallon overpacks or smaller, cubic yard boxes, other boxes, etc.). All containers will be constructed of materials that are compatible with the constituents being held. All containers will be stored in designated container management areas with other chemically-compatible hazardous wastes. All containers will be labeled, marked, and otherwise managed in the same manner as all other hazardous waste containers currently managed at the facility. Containerized wastes will be consolidated and treated/ shredded onsite or shipped to offsite storage, treatment and/or disposal facilities in bulk or container form. All container operations are subject to the conditions of Section I: Container Storage, of the CHSI RCRA Part B permit. Existing procedures for drum management will be utilized and are included as attachment 23. Container management changes are due to the addition of two transportation vehicles in Unit 69. Section D text pages, Table D-1 (Container Management Areas), Table D-9 (Container Handling Activities) and Appendix D-2 (Container Management) have been modified to show these operations. The revised pages are included as Attachment 24.
3. Use and Management of Tank Systems 35 IAC 703.202 - The proposed modification has impact on the use and management of tank systems. An additional tankfarm with four tanks (capacity 42,799 gallons), hydropulpar tank (capacity of xx,xxx gallons) and metalwashing tanks (capacity of 4,717 gallons) will be included. Professional engineer assessments, physical data, piping, instrumentation and process flow diagrams, process controls, external corrosion protection, containment system details, spill controls and

release detection details are included in the proposed modification. Existing procedures for tank operations will be utilized. All tank operations are subject to the conditions of Section II: Tank Systems, of the CHSI RCRA Part B permit. Table D-2 (Tank Management Areas) and Appendix D-1 (Process Descriptions) have been modified to show these operations. The revised pages are included as Attachment 25.

4. Manifest System - All hazardous wastes that are received, consolidated/bulked and/or shipped from the facility, will be accompanied by a properly completed hazardous waste manifest.
5. Recordkeeping and Reporting - All hazardous wastes that are received, consolidated/bulked, shredded and/or shipped from the facility, will be documented in the facility's operating records. All operating records will be maintained on permanent file by CHSI.
6. Ignitable, Reactive, and Incompatible Waste - All hazardous wastes received at or shipped from the facility are subject to the waste identification procedures outlined in the facility's Waste Analysis Plan. The Waste Analysis Plan is designed to identify the physical and chemical nature of the waste stream in order to avoid any potential adverse effects caused by ignitable, reactive, and incompatible wastes. The waste codes handled have been identified by EPA as being ignitable, corrosive, reactive and toxic (as are those currently acceptable for consolidation, pour-off and/or storage). Although this modification will allow storage, consolidation and shredding of ignitable and reactive wastes these wastes are currently stored, consolidated and poured-off in other units at the facility. Existing procedures for those activities will be utilized. A foam fire protection system will be added for the bulk flammable liquid tank farm (Unit 22), the truck loading/unloading pad (Unit 69), hazardous waste shredding system (Units 24 and 42) and the metalwashing system (Unit 68). Spray-Applied Fire Resistant Material will be added to the roof, walls and support structures of Units 24 and 42 as required. Explosion proof electrical equipment will be utilized in each of the above areas as regulations require. No-Smoking signs and grounding/bonding stations will be added to each of the above areas. Nitrogen blanketing will be utilized in the above areas to reduce oxygen levels for fire and explosion control. Additionally, manual controls can be used to flood the shredding system with nitrogen. The shredding tower will be equipped with an automatic carbon dioxide fire protection system. The shredding tower will also be equipped with an automatic deflagration system. Both systems can also be manually activated. All wastes will be stored with other chemically-compatible hazardous wastes. All hazardous wastes intended for use as a supplemental fuel and/or storage are handled in accordance with the facility's existing plan for handling ignitable, reactive, and incompatible wastes.

7. Waste Analysis Plan and Procedures - CHSI's Waste Analysis plan is designed to ensure that all incoming hazardous wastes are properly characterized and identified (by waste code) as part of waste prequalification procedures at the site of generation and conformance testing procedures conducted upon arrival at CHSI. The Waste Analysis Plan includes references to standard procedures and test methods for any sampling or analysis that is required to determine the presence of toxic constituents. All hazardous wastes undergo bench-scale treatability tests prior to consolidation, pour-off, blending/shredding and/or storage. In addition, all wastes are subject to compatibility testing prior to onsite storage, consolidation, pour-off and blending/shredding activities. This proposed modification does affect CHSI's existing Waste Analysis Plan (WAP) with respect to shredding and metalwashing of hazardous wastes. Text pages and Table C-16 (Hazardous Shredding/Metalwashing Waste Codes) have been modified to show these operations. The revised pages are included as Attachment 26.
8. Security Plan and Procedures - The proposed modification has no impact on the security plan and procedures currently in effect at the facility.
9. Facility Inspection Plan and Procedures - All containers used to store hazardous waste are subject to a daily inspection to insure the integrity of the container and labeling/markings on the container. Similarly, all bulk storage tanks and treatment units are inspected on a daily basis. No new or special inspection procedures are required for the units storing wastes under this modification. Additional fire protection systems require modifications to inspection forms and additional storage requires modification to procedures. The revised inspection forms are included in Attachment 27.
10. Personal Training Plan and Procedures - The proposed modification has minor impact on the facility's Training Plan. Although new staff positions are required to operate the tank farm, shredding system and metalwash system, since CHSI already handles the same or similar toxic constituents of these waste codes (i.e., D-, F-, K-, P-, and U-codes), no additional training on the nature and properties of the wastes is required. Training for the Contingency Plan, Waste Analysis Plan, Inspection Plan, permits, and standard operating procedures will have modified training modules to include the new operations. All new employees will be trained according to the requirements of the plan.
11. Preparedness and Prevention - The proposed modification has some impact on the preparedness and prevention measures currently in effect at the facility. CHSI will add a tank farm, unloading area, shredding system and metalwash system. An automatic foam/water fire protection system will be added to these areas. Also the shredding system will have an

automatic carbon dioxide fire suppression system and deflagration system added. Explosion proof electrical equipment will be utilized in flammable areas. Nitrogen blanketing will be used to prevent fires or explosions. Each area will have impervious containment. Carbon adsorption systems will be utilized to control organic emissions. Additional eyewash/shower stations, communication devices and fire extinguishers shall be added. Other precautions utilized in flammable areas at the facility such as no smoking signs will be added. The wastes are stored in contained, segregated storage bays or tanks with other chemically-compatible wastes. Standard operating procedures to ensure aisle spacing and container integrity are followed at all times. Table F-3 (Vehicle Loading Areas) has been modified to reflect these changes. The revised pages are included as Attachment 28.

12. Contingency Plan - The proposed modification has impact on the contingency planning measures currently in effect at the facility. CHSI Drawing No. 4220 (Sheet 2 of 3) has been modified to show emergency evacuation routes. CHSI Drawing No. 4221 (Sheet 2 of 3) has been modified to show emergency and safety equipment additions. CHSI Drawing No. 4222 (Sheet 2 of 3) has been modified to show chemical storage. Text pages have been modified to reflect these changes. The revised pages and drawings are included as Attachment 29.
13. Closure Plan and Procedures - The proposed modification increases the total facility closure costs because of increased storage capacity and increased costs for decontamination of the new units. Table I-1 (maximum closure volumes), Table I-2 (Closure Timeline), Table 2 (unit capacities) and Appendix I-3 (Closure cost calculations and summary closure costs) have been modified to reflect these changes. The revised pages are included as Attachment 30.
14. Financial Responsibility - The existing closure cost estimate already accounts for the disposal of the maximum volume of waste authorized for storage at the facility. CHSI is requesting an increase in its storage capacity and increase in decontamination costs. These result in a increase in the closure cost estimate. The increase for these modifications is \$253,904 in 1995 dollars. Adjusted for inflation, closure costs increase \$275,919 in 1999 dollars. Closure funding for the increased costs will be submitted to IEPA at least 60 days prior to operation of the unit.

CHSI believes the modifications will present the same minimal level of potential exposure to humans and the environment as other operations at the facility since these or similar operations are currently done at the facility and similar wastes are handled at the facility. All operations provide containment of hazardous waste or hazardous waste constituents to control releases of liquids and solids to the land, surface water, groundwater or subsurface environment. Tanks, piping, ancillary equipment, connections and units provide primary containment of wastes and are subject to monitoring to assure emissions are not present. Controls monitor equipment operations and shutdown operations when not in acceptable operating ranges. Multiple, redundant fire/explosion suppression systems would control "upset conditions". Nitrogen blanketing prevents fire/explosion potential by oxygen reduction. Emissions are collected and controlled to permitted levels. A written description on potential pathways of exposure to humans or environmental receptors is included as Attachment 31.

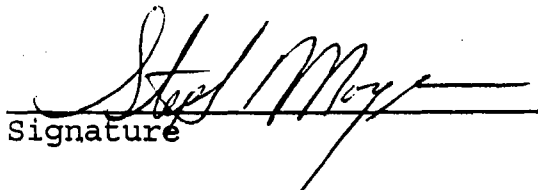
Organic air emissions from the proposed units will be controlled with carbon adsorption systems. These systems are shown on CHSI Drawing Nos. 4286 and 4287. The systems include dual 1800 pound carbon beds in series. These operations must meet the requirements of 40 CFR 264 Subparts BB and CC. The standards covered by the operation include containers, tanks, closed vent systems and control devices. A written description which demonstrates how compliance with the standards is achieved and design analysis of the air pollution control systems are included as attachment 32.

The CHSI facility is located within the corporate limits of the city of Chicago which has a population of over 1,000,000. This exempts the CHSI facility from the requirements of 39.2 of the Illinois Environmental Protection Act.

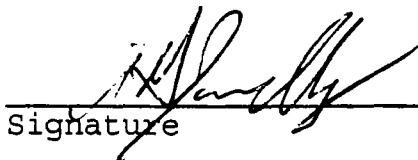


## VI. CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to be the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

 1/25/02  
Signature Date

Stephen H. Moynihan, Senior Vice President  
Clean Harbors Services, Inc.

 2/22/00  
Signature Date

Anthony G. Ianello, Executive Director  
Illinois International Port District

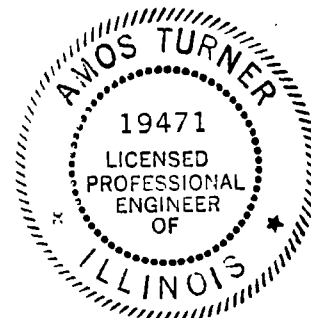
VII. ENGINEER CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including possibility of fine and imprisonment for knowing violations.

Engineer Seal

Amos Turner 01-26-00  
Amos Turner Date

Hoyer-Schlesinger-Turner, Inc.  
3074 University Avenue  
Highland Park, IL 60035  
(847) 681-0470



EXP. DATE 11-30-00

Table 3.1  
RCRA Air Emissions Regulations  
Subpart BB Compliance Requirements by Equipment Type  
Summary for Clean Harbors Services, Inc.

Source	Service	Emissions Limit	Equipment Specification	Work Practice	Repair Requirements
Pump	Light Liquid	No Detectable Emissions 10,000 ppm by volume or 500 ppmv for "No Detectable Emissions Service"	Dual Seals, Closed Vent	Monthly Monitoring and Weekly Inspection or Weekly Inspection and monitor w/in 5 days if Evidence of leak	First Attempt w/in 5 Days Completed w/in 15 Days
	Heavy Liquid	No Detectable Emissions 10,000 ppmv	Dual Seals, Closed Vent	Monitor w/in 5 days if Evidence of Leak is Found	First Attempt w/in 5 days Completed w/in 15 days
Valve	Gas & Light Liquid	No Detectable Emissions 10,000 ppmv or 500 ppmv for "No Detectable Emissions Service"		Monthly Monitoring and Weekly Inspection or Test for Compliance Annually	First Attempt w/in 5 days Completed w/in 15 days
	Heavy Liquid	No Detectable Emissions 10,000 ppmv		Monitor w/in 5 days if Evidence of Leak is Found	First Attempt w/in 5 Days Completed w/in 15 Days
Pressure Relief Gas Device		No Detectable Emissions 500 ppmv	Closed Vent	Monitor w/in 5 days if Pressure Release event	Return to No Detectable Emissions w/in 5 Days
	Light & Heavy Liquids	No Detectable Emissions 10,000 ppmv	Closed Vent	Monitor w/in 5 days if Evidence of Leak is Found	First Attempt w/in 5 Days Completed w/in 15 Days
Flange/Connection	Gas, Light & Heavy Liquids	No Detectable Emissions 10,000 ppmv		Monitor w/in 5 Days if Evidence of Leak is Found	First Attempt w/in 5 Days Completed w/in 15 Days
Compressor	Gas	No Detectable Emissions 500 ppmv or Barrier Fluid Sensor	Seal System with Barrier Fluid or Closed Vent	Check Sensors Daily or Check Alarms Monthly	First Attempt w/in 5 Days Completed w/in 15 Days
Sampling Connection	Gas, Light & Heavy Liquids	Collect purged fluids during sampling event	Place in tank or container	None	Re-close after sampling
Open Ended Line	Gas, Light & Heavy Liquids	No Detectable Emissions (Refer to Specific Equipment Standards)	Cap, Plug, Flange or Second Valve	Monitor if Evidence of Leak is Found (Refer to Specific Equipment Standards)	Refer to Specific Equipment Standards

Key:

No Detectable Emissions: As monitored with calibrated Flame Ionization Detector (FID). See Appendix E for methods.

No Detectable Emissions Service: Defined as Specific Equipment designed to operate with no detectable emissions.  
For Pumps this requires (1) No Shaft Penetration of Housing, (2) No Detectable Emissions at 500 ppm level,  
and (3) Tested for Emissions Annually  
Diaphragm Pumps are designated as No Detectable Emissions Service. Gear Pumps and Centrifugal Pumps are not.

Light Liquid: As defined in text, Section 5.1.1. Generally any organic liquid with a vapor pressure above that of kerosene.

Heavy Liquid: As defined in text, Section 5.1.1. Generally, all organic liquids which are not light liquids.

ppmv: parts per million by volume as measured with a calibrated instrument. See Appendix E for methods.

Inspection means: Visually inspect all mating surfaces, sealing surfaces, and openings for indications of leakage.  
Visually inspect all connectors, fasteners and closure caps for proper installation.  
Listen for sounds which might indicate leakage. Be aware of odors and smells which might indicate leakage.

Monitoring Means: Testing for the presence of volatile organic compounds using a calibrated instrument. The testing procedures and  
Calibration procedures are contained in Appendix E.

Table 3.1  
RCRA Air Emissions Regulations  
Subpart CC - Compliance Requirements for Affected Facilities

**Organic Threshold:** Greater than or equal to 500 ppm by weight volatile organic (VO) concentration as determined by generator knowledge or by US EPA reference method 25D or other method identified in 40 CFR 265.1084(a)(3)(iii). The VO concentration is determined at the point of waste origination (POWO) for each individual waste stream. For a generator, POWO is the point at which a solid waste is defined as a hazardous waste. For a TSD, POWO is the point at which the hazardous waste enters the facility.

**Surface Impoundments:** Subpart CC requires that surface impoundments used to manage hazardous wastes be operated with covers which vent to an emissions control device. All material transfers into and out of the Surface Impoundment are to be made through "Closed Systems". All liquid transfers by pump are to be completed using "Submerged fill" techniques.

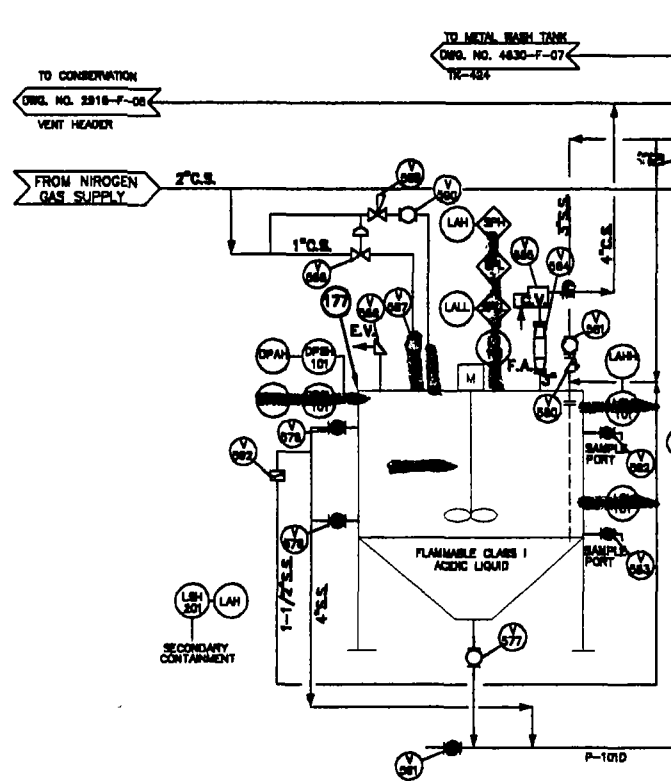
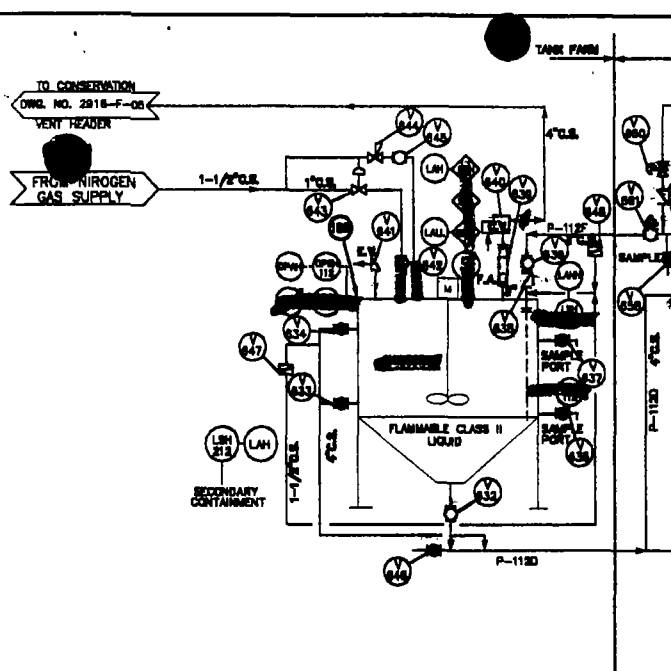
**Tank Standards:** EPA has established two levels of air controls for tanks. Under Level 1, fixed-roof tanks may operate without emission control devices (e.g., carbon absorption units) and without periodic air monitoring for leak detection, provided that certain restrictions regarding tank design/operation and maximum organic vapor pressure limits are met. Any tank that does not qualify for Level 1 controls must comply with the Level 2 control standards. Level 2 requires more sophisticated emission control techniques (e.g., floating roofs, control devices) and mandatory periodic air monitoring for leak detection.

LEVEL 1 TANK CONTROL REQUIREMENTS

- A fixed roof tank that meets maximum organic vapor pressure (MOVVP) limits and other specific operating parameters may be operated under Level 1 controls. For example, a fixed roof tank with a design capacity of less than 75 cubic meters (19,815 gallons) is eligible for Level 1 controls provided that: the MOVVP of waste placed into the tank is less than 76.7 kilopascals (11.12 psia); the waste is not heated; and the tank is not being used for stabilization.
- The tank must be equipped with closure devices that are designed to form a continuous barrier over the entire surface area of waste in the tank, or be connected to a closed vent system connected to a control device (e.g. carbon absorption system).
- Initial and annual visual inspections must be conducted to ensure that there are no visible cracks, holes, gaps, or other open spaces between the roof section joints or between the interface of the roof edge and tank wall.
- Level 1 tanks do not require a closed vent system and air emissions control device.

LEVEL 2 TANK CONTROL REQUIREMENTS

- The tank meets one of the five (5) allowed designs: a tank that is vented through a closed vent system to a control device; a fixed roof tank with an internal floating roof; a tank with an external floating roof; a pressure tank; or a tank located inside an enclosure that is vented through a closed vent system to an enclosed combustion control device.
- For a typical fixed roof tank subject to Level 2 controls, the tank would require organic vapors to be routed through a closed vent systems to a control device (e.g., carbon adsorption) that provides a minimum organic removal efficiency of 95%.



# LEGEND

- HAND OPERATED ON-OFF VALVE (NORMALLY OPEN)
- HAND OPERATED ON-OFF VALVE (NORMALLY CLOSED)
- HAND OPERATED ON-OFF VALVE WITH REMOTE POSITION INDICATOR
- ISOLATION CHECK VALVE
- AIR ACTUATED VALVE
- SOLENOID VALVE
- SELF PRESSURE REGULATING VALVE
- MOTOR
- INDICATED DIRECTION OF FLOW
- NOTE CONNECTION

- AOV AIR OPERATED VALVE
- A/S AIR SUPPLY
- G.V. GROUND VALVE
- E.V. EMERGENCY VALVE
- F.A. FLAME ARRESTOR
- C.S. CARBON STEEL
- S.S. STAINLESS STEEL
- OFFSHORE CLASS 2
- LOW PRESSURE
- HIGH PRESSURE
- LEVEL ALA
- LEVEL ALA (REVISED)
- LEVEL ALA (FILE N2)
- LEVEL ALA

## DESCRIPTION

- 18,800 GAL. IGNITABLE WASTE STORAGE TANK - TK-112
- 200 GPM RECEIVING PUMP, HORIZONTAL CENTRIFUGAL PUMP WITH OPEN IMPELLER, IRON CONSTRUCTION, DOUBLE MECH SEAL WITH BARRIER FLUID.
- STRAINER FOR TRANSFER PUMP, ITEM #162
- 200 GPM PORTABLE TRANSFER PUMP, AIR OPERATED DOUBLE DIAPHRAGM PUMP, CAST IRON HOUSING WITH VITON DIAPHRAGMS.
- 12,800 GAL. ACIDIC/IGNITABLE WASTE STORAGE TANK (TK-101 & TK-107)
- 200 GPM RECEIVING PUMP, HORIZONTAL CENTRIFUGAL PUMP WITH OPEN IMPELLER, SS316 CONSTRUCTION, DOUBLE MECH SEAL WITH BARRIER FLUID.
- STRAINER FOR TRANSFER PUMP, ITEM #178
- 12,800 GAL. PCB WASTE STORAGE TANK - TK-102
- 200 GPM RECEIVING PUMP, HORIZONTAL CENTRIFUGAL PUMP WITH OPEN IMPELLER, IRON CONSTRUCTION, DOUBLE MECH SEAL WITH BARRIER FLUID.
- STRAINER FOR TRANSFER PUMP, ITEM #181
- 12,800 GAL. PCB WASTE STORAGE TANK - TK-110
- 200 GPM RECEIVING PUMP, HORIZONTAL CENTRIFUGAL PUMP WITH OPEN IMPELLER, IRON CONSTRUCTION, DOUBLE MECH SEAL WITH BARRIER FLUID.
- STRAINER FOR TRANSFER PUMP, ITEM #184
- 180 GPM DILUENT FEED/TRANSFER PUMP
- FOR PROPOSED SHREDDING SHREDDING SYSTEM

- IS CARBON STEEL UNLESS OTHERWISE SPECIFIED.
- NECTIONS ARE MADE WITH QUICK COUPLING WITH A VALVE / 200 PIPE SIDE. AND HOSE CONNECTIONS ARE W/PIPE GASKET.
- ARE CHEMICAL RESISTANT REINFORCED RUBBER.
- ITY AND HOSE CONNECTIONS AND HOSE CONNECTIONS SHOWN.
- RE CONNECTION OF DRAIN MANIFOLD OF TANKS #TK-101, TK-107, TK-108 03 THRU TK-108. FOR TANK TO TANK TRANSFER. THIS CONNECTION TO BE ADDITION OF ANTIFOAM AND IMULSIFIER AGENTS INTO THE TANK.
- RE CONNECTION OF DRAIN MANIFOLD OF TANKS #TK-112, TK-109 03 THRU TK-108. FOR TANK TO TANK TRANSFER. THIS CONNECTION TO BE ADDITION OF ANTIFOAM AND IMULSIFIER AGENTS INTO THE TANK.

CHSI DWG. NO. 4207

02/9/00

1	SEE REVISION NOTE 1	A.A.A.	A.M.L.	2/9/00
0	AS BUILT	B.H.P.	B.H.P.	7-9-88
C	SEE REVISION NOTE C			
B	SEE REVISION NOTE B			
A	RCRA PART B MODIFICATION			
DATE	DESCRIPTION	ORIG.	CHG.	APPL.

**CleanHarbors**  
ENVIRONMENTAL SERVICES, INC.

1501 WASHINGTON STREET  
Bryn Mawr, Pennsylvania 19010  
Telephone (781) 848-1200/1800

CLEAN HARBORS SERVICES, INC.  
11800 S. STONY ISLAND AVENUE  
CHICAGO, ILLINOIS 60617  
PROCESS FLOW, PIPING & INSTRUMENTATION  
DIAGRAM - TANK FARM OPERATION  
SHEET 5 OF 5

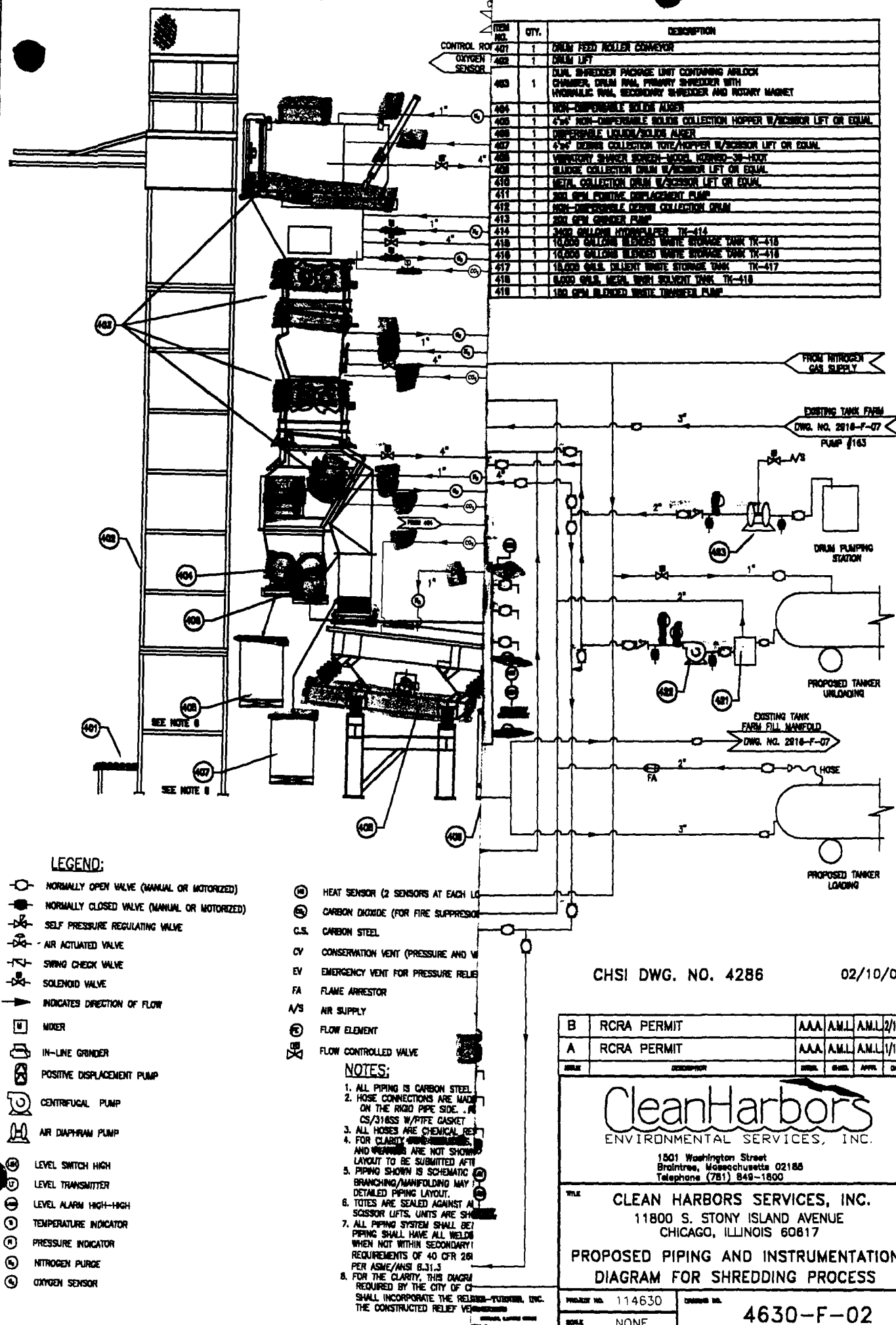
PROJECT NO. GW-5404

DRAWING NO.

SCALE NONE

2916-F-08

ITEM NO.	QTY.	DESCRIPTION
401	1	DRUM FEED ROLLER CONVEYOR
402	1	DRUM LIFT
403	1	DUAL SHREDDER PACKAGE UNIT CONTAINING AIRLOCK CHAMBER, DRUM ROLL, PRIMARY SHREDDER WITH HYDRAULIC PUMP, SECONDARY SHREDDER AND ROTARY MAGNET
404	1	NON-DIFFERENTIABLE SOLIDS ALSE
405	1	4" NON-DIFFERENTIABLE SOLIDS COLLECTION HOPPER W/SCISSOR LIFT OR EQUAL
406	1	DIFFERENTIABLE LIQUID/SOLIDS ALSE
407	1	4" BOWEN COLLECTION TOTE/HOPPER W/SCISSOR LIFT OR EQUAL
408	1	VARIABLE SPEED SHREDDER WOOD, LOGS, 30-HOOT
409	1	SLUDGE COLLECTION DRUM W/SCISSOR LIFT OR EQUAL
410	1	METAL COLLECTION DRUM W/SCISSOR LIFT OR EQUAL
411	1	300 GPM POSITIVE DISPLACEMENT PUMP
412	1	NON-DIFFERENTIABLE SOLIDS COLLECTION DRUM
413	1	300 GPM GRINDER PUMP
414	1	3000 GALLON HYDROLYZER TK-414
415	1	10,000 GALLON BLENDERS WASTE STORAGE TANK TK-415
416	1	10,000 GALLON BLENDERS WASTE STORAGE TANK TK-416
417	1	10,000 GALLON BLENDERS WASTE STORAGE TANK TK-417
418	1	8000 GALS. MESH WASH SOLVENT TANK TK-418
419	1	180 GPM BLENDERS WASTE TRANSFER PUMP



CHSI DWG. NO. 4286

02/10/00

B	RCRA PERMIT	AAA	A.M.L.	A.M.L.	2/10/00
A	RCRA PERMIT	AAA	A.M.L.	A.M.L.	1/10/00
DATE	DESCRIPTION	INITIAL	DATE	APPROVAL	DATE
<p><b>CleanHarbors</b> ENVIRONMENTAL SERVICES, INC.</p> <p>1501 Washington Street Braintree, Massachusetts 02186 Telephone (781) 849-1800</p>					
<p>TITLE: <b>CLEAN HARBORS SERVICES, INC.</b> 11800 S. STONY ISLAND AVENUE CHICAGO, ILLINOIS 60617</p>					
<p><b>PROPOSED PIPING AND INSTRUMENTATION DIAGRAM FOR SHREDDING PROCESS</b></p>					
PROJECT NO. 114630		DRAWING NO. 4630-F-02			
SCALE: NONE					

Container Standards:

All containers of less than 26 gallons design capacity are exempt from Subpart CC. There are three levels of emission controls for containers depending on the design capacity of the container, whether or not the container is being used "in light material service", and whether or not the container is used for a stabilization treatment process. The term "in light material service" means that the container is used to manage a material for which both of the following apply: (1) The vapor pressure of one or more of the organic constituents in the material is greater than 0.3 kilopascals (0.044 psia) at 20 degrees C; and (2) The total concentration of the pure organic constituents having a vapor pressure greater than 0.3 kilopascals (0.044 psia) at 20 degrees C is equal to or greater than 20 percent by weight.

LEVEL 1 CONTROLS

Containers with a design capacity of 26 to 119 gallons; and containers with a design capacity exceeding 119 gallons and containing a hazardous waste that is not "in light material service". For a non-DOT container with a capacity greater than 119 gallons, the facility must maintain a copy of the procedure used to determine that the container is not "in light material service". Under Level 1, the container must be one of the following:

1. A U.S. DOT container;
2. A container that is equipped with a cover and closure devices that form a continuous barrier over the container openings such that when secured, there are no visible holes, gaps, or other open spaces into the interior of the container. The cover may be a separate cover (e.g., lid on a drum, tarp on a rolloff) or may be an integral part of the container structural design (e.g., a portable tank); or
3. The container must be an open-top container in which an organic-vapor suppressing barrier is placed on or over the hazardous waste such that no hazardous waste is exposed to the atmosphere (e.g., a vapor suppressing foam).
  - All covers and closure devices must be composed of materials that are suitable to minimize waste exposure to the atmosphere and maintain equipment integrity for as long as it is in service.
  - All covers and closure devices must be secured and closed at all times, except when adding or removing waste or other materials, or performing routine activities other than transfer operations.
  - Visual inspection of covers and closure devices for visible cracks, holes, gaps, or other open spaces into the interior of the container is required within 24 hours after acceptance at a RCRA treatment, storage, and disposal facility.

LEVEL 2 CONTROLS

Containers with a design capacity exceeding 119 gallons and containing a waste that is "in light material service". Under Level 2, the container must be one of the following:

1. A U.S. DOT container;
2. A container that operates with "no detectable organic emissions" as determined through the monitoring of all closures using a photoionization detector or similar instrument; or
3. A container that has been demonstrated within the preceding 12 months to be vapor-tight using Method 27 in 40 CFR 60 Appendix A.
  - Containers managed under Level 2 controls must meet the same operating and inspection requirements as Level 1 containers.
  - Transfers in/out of a Level 2 container must be conducted in a manner that minimizes exposure of hazardous waste to the atmosphere. Examples of acceptable loading procedures include submerged fill, vapor balancing, or vapor recovery.

LEVEL 3 CONTROLS

Containers with a design capacity greater than 26 gallons which are used in a stabilization treatment process. Under Level 3, the container must be one of the following:

1. A container that is vented directly through a closed-vent system to a control device operating in accordance with 40 CFR 264.1086(e)(2)(ii); or
2. A container that is vented into an enclosure which is exhausted through a closed-vent system to a control device in accordance with 40 CFR 264.1086(e)(2)(i) and (e)(2)(ii).



Closed Vent Systems:

Level 2 Tank controls and Level 3 container controls require a closed vent systems be used to control the emissions of organic vapors. The closed vent systems shall be designed and operated with no detectable organic emissions (500 ppmv relative to background), and shall not be bypassed. If a bypass is installed, it shall be either locked and sealed, or continuously monitored.

Control Devices/  
Carbon Absorption:

Level 2 Tank controls and Level 3 container controls require that organic vapor control devices provide a minimum removal efficiency of 95% by weight. Continuous monitoring is required except for carbon systems which require periodic monitoring. The 95% removal efficiency requirement for carbon bed system also includes emissions during the regeneration or destruction of the used carbon bed. Subpart CC further requires spent carbon be managed in an appropriately permitted facility.

Solidification/  
Stabilization:

Waste stabilization and solidification activities involving hazardous wastes with a VO concentration of 500 ppmw or greater require Level 3 container controls.

Other Subpart CC  
Regulated Activities:

The requirements of Subpart CC can be extended to Subpart X Miscellaneous equipment at the discretion of the US EPA Regional Administrator. The specific requirements would be determined by the permitting engineer or the Regional Administrator.

Inspection Means:

Visually inspect all mating surfaces, sealing surfaces and openings for indications of leakage. Visually inspect all connectors, fasteners and closure caps for proper installation.

Monitoring Means:

Testing for the presence of organic compounds using a calibrated instrument. The testing procedures and calibration procedures are contained in Appendix E.

Table S.1  
RCRA Air Emissions Regulations  
Subpart BB Compliance Requirements for Affected Equipment (see note a)  
Clean Harbors Services, Inc.

Item (see note b)	Substantive Requirement (see note c)	Recordkeeping/Reporting Requirement
A. Pumps in Light Liquid Service	1. Monthly LDAR (see note d) - 264.1052 2. Weekly Visual Inspection - 264.1052(a)(2) (see note e)	3. Tag Leaking Sources only - 264.1064(c) 4. Record Dates, Repair Attempts, and Reasons for Delay of Repair - 264.1064(d)
Pumps in No Detectable Emissions Service	1. Designed and operated under certain conditions - 264.1052(e)(1), (2) 2. Tested for "no detectable emissions" on an annual basis - 264.1052(e)(3)	3. Record results of compliance tests - 264.1064(g)
B. Compressors (General)	1. Installation of Seal System - 264.1053(a)-(d) 2. Monthly Inspection of Seals - 264.1053(e)	3. Record Seal System Design Criterion - 264.1064(j) 4. Same as A3 and A4
C. Pressure Relief Devices in Gas Service (General)	1. Designed and Operated (see note f) for no detectable emissions - 264.1054(b) 2. Tested for No Detectable Emissions after each Over Pressure Release event - 264.1054(b)	3. Record Results of Compliance Test - 264.1064(g)
D. Sampling Connection Systems (General)	1. Designed and Operated Under Certain Conditions - 264.1055(a), (b)	2. Record Design Criterion - 264.1064(e)
E. Open Ended Valves or Lines	1. Cap Open Ended Lines - 264.1056(a)(1) 2. Operational Requirements - 264.1056(a)(2), (b), (c)	
F. Valves in Gas/Vapor or Light Liquid Service	1. Monthly LDAR - 264.1057(a)-(e)	2. Same as A3, A4
G. Valves on Gas/Vapor or Light Liquid Service (Unsafe to Monitor)	1. Monitoring during Safe to Monitor Times - 264.1057(g)(2)	2. Maintain Record of Monitoring Plan and Explain Why Valve is Unsafe to Monitor - 264.1064(h)(1)
H. Valves in Gas/Vapor or Light Liquid Service (Difficult to Monitor)	1. Annual Monitoring - 264.1057(h)(3)	2. Maintain Record of Monitoring Schedule and Explain why Valve is Difficult to Monitor - 264.1064(h)(2)
I. Pressure Relief Devices in Liquid Service and Flanges and Other Connectors	1. LDAR within 5 days if evidence of leakage is discovered - 264.1058(a)	2. Same as A3, A4
J. Closed Vent Systems and Control Devices (General)	1. Designed and Operated under Certain Conditions - 264.1033, 264.1060 2. Tested Annually for No Detectable Emissions - 264.1033(j)(2) 3. Operate Closed Vent Systems and Control Devices when Emissions are Vented to Them - 264.1033(k)	4. Same as D2 5. Same as C3 6. Report Exceedances Semiannually - 264.1036(a)(2), 264.1065(a)(4)
K. Closed Vent Systems and Devices (Carbon Canisters not Regenerated on Site)	1. Designed and Operated Under Certain Conditions - 264.1033(b) 2. Monitor Control Devices and Replace Carbon Upon Breakthrough - 264.1033(h) 3. Same as J3	4. Same as D2 5. Record Monitoring and Maintenance Activities - 264.1035(c)(7), 264.1065(a)(4) 6. Report Exceedances and Missed Maintenance Semiannually - 264.1065(a)(4)

The requirements presented in this table are those for the equipment covered by Subpart BB. The base table is drawn from the document "Hazardous Waste TSDF, Technical Guidance Document for RCRA Air Emissions Standards for Process Vents and Equipment", EPA 450/3-89-021, July 1990.

c. Each source covered by Subpart BB is listed and the requirements for that source are annotated mainly by indicating the substantive requirements for that source, the citation for those requirements, the associated recordkeeping/reporting requirements and their citation.

d. The substantive requirements are summarized and a reference to the exact regulatory language is provided if more detail is needed.

e. LDAR means 'leak detection and repair'. This generally includes the use of a portable monitor to detect leaks and then, for those pieces of equipment that are leaking, repair of the leak. Delay of Repair is general to all sources and is presented separately in Table S.2. Two Relevant thresholds are in place. For Pressure Relief Devices, and for Compressors in 'no Detect Emissions' service, the Leak Determination Threshold is 500 ppmv. For all other equipment covered under Subpart BB, the relevant threshold is 10,000 ppmv.

f. Inspection generally means visual inspection of seal areas as well as seal-barrier fluid system integrity. Inspection includes repair of leaking seals and seal/barrier fluid systems.

g. Designed and operated generally means that specific equipment or designs are allowed if they are used in ways that results in emission reductions that are at least equivalent to the general requirements.

**Table 6.1**  
**Subpart CC Affected Equipment Other Than Containers**  
**Clean Harbors Services, Inc.**

**Inspection and Monitoring Requirements**

<b>Affected Equipment</b>	<b>Difficult to Inspect</b>	<b>Performance Requirements</b>	<b>Inspection Requirements</b>	<b>Monitoring Requirements</b>
Tanks Tank Farm Pegasus System	No	Level 2 Controls	Initially and every 12 months	None
Closed Vent Systems Tank Farm Pegasus System	No	Level 2 Controls GAC: 95% organic removal	Initially and every 12 months	Initially and every 12 months
Waste Stabilization	No	Process waste with VO less than 500 ppm	Not Required	Not Required

**Key:**

VO: Volatile Organic concentration as determined using EPA method 25D, or other analytical method per 40 CFR 265.1084(a)(3)

Inspection means: Visually inspect all mating surfaces, sealing surfaces, and openings for indications of leakage.  
 Visually inspect all connectors, fasteners and closure caps for proper installation.

Monitoring Means: Testing for the presence of volatile organic compounds using a calibrated instrument. The testing procedures and Calibration procedures are contained in Appendix C & D.

Table 4.2

RCRA Air Emissions Subpart CC  
Inspection, Leak Detection, and Transfer Requirements for Containers

I. LEVEL 1 CONTAINERS

A. Inspection Requirements

1. Inspection of covers and closure devices is required within 24 hours after a non-RCRA empty container is accepted at the facility.
2. Any container remaining at the facility for 1 year or more must be re-inspected.
3. During an inspection, the facility must inspect the container and its cover and closure devices to check for visible cracks, holes, gaps, or other open spaces into the interior of the container.
4. Recordkeeping of inspections is not required for containers.
5. If a defect is detected during an inspection, the first effort at repair must be within 24 hours of detection, and completed as soon as possible but within 5 calendar days.
6. If the repair cannot be completed within 5 days, then the waste must be removed from the container. The container cannot be reused until the defect is repaired.

B. Leak Detection & Air Monitoring

1. Air monitoring for containers is not required at time of receipt or re-shipment.

C. Waste Transfer Requirements

1. No submerged fill or other transfer techniques required.

II. LEVEL 2 CONTAINERS

A. Inspection Requirements

1. Inspection of covers and closure devices is required within 24 hours after a non-RCRA empty container is accepted at the facility.
2. Any container remaining at the facility for 1 year or more must be re-inspected.
3. During an inspection, the facility must inspect the container and its cover and closure devices to check for visible cracks, holes, gaps, or other open spaces into the interior of the container.
4. Recordkeeping of inspections is not required for containers.
5. If a defect is detected during an inspection, the first effort at repair must be within 24 hours of detection, and completed as soon as possible but within 5 calendar days.
6. If the repair cannot be completed within 5 days, then the waste must be removed from the container. The container cannot be reused until the defect is repaired.

B. Leak Detection & Air Monitoring

1. Air monitoring for containers is not required at time of receipt.
2. Prior to shipment, non-DOT containers must be monitored for NDOE, unless the container is demonstrated to be "vapor-tight" within previous 12 months.

C. Waste Transfer Requirements

1. Transfers in/out of a Level 2 container must be conducted in a manner that minimizes exposure of hazardous waste to the atmosphere. Examples of acceptable loading procedures include submerged fill, vapor balancing, or vapor recovery.

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Sender's Name Jim Blough Phone (312) 886-2967

Company U S EPA

Address 77 W JACKSON BLVD 13TH FL  
 Dept./Floor/Suite/Room

City CHICAGO State IL ZIP 60604-3511

**2** Internal Billing Reference Information F  
 (Optional) (First 24 characters will appear on invoice)

**3 To** (please print and press hard)  
 Recipient's Name MARA MCGINNIS # 33 Phone (217) 524 3288

Company IEPA

Address 1021 North GRAND AVE EAST  
 (To "HOLD" at FedEx location, print FedEx address here) (We Cannot Deliver to P.O. Boxes or P.O. ZIP Codes) Dept./Floor/Suite/Room

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☐ FedEx Letter Rate not available. Minimum charge: One pound rate.

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(Call for delivery schedule. See back for detailed descriptions of freight services.)

**5 Packaging** ☒ FedEx Letter ☐ FedEx Pak ☐ FedEx Box ☐ FedEx Tube ☐ Other Pkg.  
 Declared value limit \$500

**6 Special Handling** (One box must be checked)  
 Does this shipment contain dangerous goods? ☒ No ☐ Yes (As per attached Shipper's Declaration) ☐ Yes (Shipper's Declaration not required)  
☐ Dry Ice (Dry Ice, 9, UN 1845) x kg. ☐ Cargo Aircraft Only

\*Dangerous Goods cannot be shipped in FedEx packaging.

**7 Payment**  
 Bill to: ☒ Sender (Account No. in Section 1 will be billed) ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check  
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Total Packages 1 Total Weight 1 Total Declared Value\* \$ .00 Total Charges \$ \_\_\_\_\_

\*When declaring a value higher than \$100 per shipment, you pay an additional charge. See SERVICE CONDITIONS, DECLARED VALUE, AND LIMIT OF LIABILITY section for further information.

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Your signature authorizes Federal Express to deliver this shipment without obtaining a signature and agrees to indemnify and hold harmless Federal Express from any resulting claims.

321

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**Responsibility For Packaging And Completing Airbill** You are responsible for adequately packaging your goods and properly filling out this Airbill. If you omit the number of packages and/or weight per package, our billing will be based on our best estimate of the number of packages we received and/or an estimated "default" weight per package as determined by us.

**Responsibility For Payment** Even if you give us different payment instructions, you will always be primarily responsible for all delivery costs, as well as any cost we incur in either returning your package to you or warehousing it pending disposition.

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- Our liability for loss or damage to your package is limited to your actual damage or \$100, unless you declare a higher value, pay an additional charge, and document your actual loss in a timely manner. You may pay an additional charge for each additional \$100 of declared value. The declared value does not constitute, nor do we provide cargo liability insurance.
- In any event, we will not be liable for any damage, whether direct, incidental, special, or consequential in excess of the declared value of a shipment, whether or not Federal Express had knowledge that such damages might be incurred including but not limited to loss of income or profits.
- We won't be liable:
  - for your acts or omissions including but not limited to improper or insufficient packing, securing, marking, or addressing or those of the recipient or anyone else with an interest in the package

- if you or the recipient violate any of the terms of our Agreement
- for loss or damage to shipments of prohibited items
- for loss, damage, or delay caused by events we cannot control, including but not limited to acts of God, perils of the air, weather conditions, acts of public enemies, war, strikes, civil commotions, or acts of public authorities with actual or apparent authority.

## Declared Value Limits

- The highest declared value allowed for FedEx Letter and FedEx Pak shipments is \$500.
- For other shipments, the highest declared value allowed is \$50,000 unless your package contains items of "extraordinary value," in which case the highest declared value allowed is \$500.
- Items of "extraordinary value" include shipments containing such items as artwork, jewelry, furs, precious metals, negotiable instruments, and other items listed in our Service Guide.
- You may send more than one package on this Airbill and fill in the total declared value for all packages, not to exceed the \$100, \$500 or \$50,000 per package limit described above. (Example: 5 packages can have a total declared value of up to \$250,000.) In that case, our liability is limited to the actual value of the package(s) lost or damaged, but may not exceed the maximum allowable declared value(s) or the total declared value, whichever is less. You are responsible for proving the actual loss or damage.

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**Right To Inspect** We may, at our option, open and inspect your packages before or after you give them to us to deliver.

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- **FedEx Express Saver Freight:** Up to 3 business-day service to all points in the 48 states; rates are based upon the distance shipped.

## RCRA Draft Permit Sign-off

start 4/05/01  
ends 5/01/01

### Background

Facility Name (Owner)..... Clean Harbors Service, Inc  
 (Operator).....  
 Facility Location..... 11800 South Stony Island Avenue  
Chicago IL 60617  
 Facility ID Number..... 1LP000608471  
 Public Comment Period.....

### Type of Permit

☐ Operating      ☐ Treatment      ☐ Disposal      **Modifications:**  
☐ Post-Closure      ☐ Storage      ☒ Subpart X      ☐ Class 2      ☐ EPA Initiated  
☐ BIF      ☐ Incineration      ☐ Other      ☒ Class 3

### Review Package Content

☒ Draft Permit w/attachments      ☒ Fact Sheet      ☐ Administrative Record Index  
☐ Draft Public Notice      ☐ Statement of Basis      ☐ Administrative Record  
☒ Cover Letter to Facility      ☐ Other ( )

### Applicable Permit Conditions

☐ Land Disposal Restrictions      ☐ Other ( )  
☐ Air Emissions  
☐ CMI Imposed

### Concurrences

1. Permit Writer (Name): <u>Jim Blousky</u> Phone Number: <u>986-2967</u>	<u>Initials</u>	<u>Date</u>
2. Section Secretary (Proofed)	<u>LB</u>	<u>3/2/01</u>
3. Technical Expert	<u>MOH</u>	<u>3/14/01</u>
4. Section Chief (Proofed)	<u>STH for HCN</u>	<u>12 MAR 01</u>
5. WMB Secretary (Logged-in only) <u>3/21/01</u> <u>proofed 3/5/01 Changes needed 3/26/01</u>	<u>JMS</u>	<u>3/6/01</u>
6. IMS (in PMB) [Sign-off only if public-noticing will be done by the U.S. EPA. Cross out if not applicable.]	<u>/</u>	<u>/</u>
7. ORC ( Sign-off only when Corrective Action is required ) - Assistant Regional Counsel (Name): - Permit Coordinator (Name): - SWERB Section Chief (Name):	<u>See Concurrence attached</u>	
8. WMB Secretary (proofed and 2 <sup>nd</sup> logging)	<u>JMS</u>	<u>3/29/01</u>
9. WMB Chief	<u>KES</u>	<u>3/29/01</u>



## RCRA Draft Permit Sign-off

### Background

Facility Name (Owner)..... Clean Harbors Service, Inc  
 (Operator).....  
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☐ BIF      ☐ Incineration      ☐ Other

### Modifications:

☐ Class 2      ☐ EPA Initiated  
☒ Class 3

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☐ Draft Public Notice      ☐ Statement of Basis      ☐ Administrative Record  
☒ Cover Letter to Facility      ☐ Other ( )

### Applicable Permit Conditions

☐ Land Disposal Restrictions      ☐ Other ( )  
☐ Air Emissions  
☐ CMI Imposed

### Concurrences

	<u>Initials</u>	<u>Date</u>
1. Permit Writer (Name): <u>Jim Blousky</u> Phone Number: <u>986-2967</u>		
2. Section Secretary (Proofed)	<u>LB</u>	<u>3/2/01</u>
3. Technical Expert	<u>NOH</u>	<u>3/14/01</u>
4. Section Chief (Proofed)	<u>SH for HC</u>	<u>12 MAR 01</u>
5. WMB Secretary (Logged-in only) <u>proofed 3/5/01 Changes needed 3/16/01</u>	<u>JMS</u>	<u>3/6/01</u>
6. IMS (in PMB) [Sign-off only if public-noticing will be done by the U.S. EPA. Cross out if not applicable.]		
7. ORC ( Sign-off only when Corrective Action is required ) - Assistant Regional Counsel (Name): <u>Andre Daugavietis</u> - Permit Coordinator (Name): <u>Jim</u> - SWERB Section Chief (Name):	<u>AD</u>	<u>3/16/01</u>
8. WMB Secretary (proofed and 2 <sup>nd</sup> logging)		
9. WMB Chief		

Andre Daugavietis 1470

1044



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276

THOMAS V. SKINNER, DIRECTOR

217/524-3300

April 3, 2001

CERTIFIED MAIL

7099 3400 0002 1429 9405

7099 3400 0002 1429 9559

Clean Harbors Services, Inc.  
Attn: James R. Laubsted  
11800 South Stony Island Avenue  
Chicago, Illinois 60617

Illinois International Port District  
Attn: Anthony G. Ianello  
3600 East 95<sup>th</sup> Street  
95<sup>th</sup> & the Lakefront  
Chicago, Illinois 60617-5193

Re: 0316000051 – Cook County  
Clean Harbors Services, Inc. (CHSI)  
ILD000608471  
Part B Log No. B-16-M-39  
RCRA Part B Administrative File

Gentlemen:

A draft Part B permit was mailed to you dated April 2, 2001. A copy of the cover letter is enclosed for your reference. The USEPA portion of the draft permit was not included with your copy of the draft permit. The USEPA portion of the permit is included with this letter. Please attach the draft USEPA permit to your copy of the draft permit.

Should you have any questions or comments regarding the contents of this letter, please contact Mark A. Schollenberger, P.E. of my staff at 217/524-3307.

Sincerely,

*Joyce L. Munie* by TJD

Joyce L. Munie, P.E.  
Manager, Permit Section  
Bureau of Land

JLM:MAS:bjh\2721s.doc

Attachments: Cover Letter  
USEPA portion of the permit

cc: USEPA – Harriet Croke

GEORGE H. RYAN, GOVERNOR



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276

THOMAS V. SKINNER, DIRECTOR

217/524-3300

April 2, 2001

CERTIFIED MAIL

7099 3400 0002 1429 8446

7099 3400 0002 1429 8477

Clean Harbors Services, Inc.  
Attn: James R. Laubsted  
11800 South Stony Island Avenue  
Chicago, Illinois 60617

Illinois International Port District  
Attn: Anthony G. Ianello  
3600 East 95th Street  
95th & the Lakefront  
Chicago, Illinois 60617-5193

Re: 0316000051 -- Cook County  
Clean Harbors Services, Inc. (CHSI)  
ILD000608471  
Part B Log No. B-16-M-39  
RCRA Part B Administrative File

Gentlemen:

A draft Part B permit is hereby proposed pursuant to the Resource Conservation and Recovery Act (RCRA), Illinois Environmental Protection Act, and Title 35 Ill. Adm. Code Parts 702, 703, 705, and 720 through 729 to Clean Harbors Services, Inc. (CHSI) to modify their current Part B Permit. The draft permit is hereby proposed in response to the applications assigned Log No.'s 16-M-39, -40 & 42 to: i) add a bulk flammable liquid tank farm, ii) a truck loading/unloading pad, iii) a shredding system which includes a metal wash unit, a hydropulper tank and container collection units for solids, iv) expand the temporary waiver for the prequalification analysis to include FPN/CERCLA numbers as an incident number and v) increase the wearing thickness of the dispersion tank. For more information regarding these modification requests see Attachment 2.

The modification requests identified above have been consolidated in the Illinois EPA's records as Part B Log No. 16-M-39 and received as a Class 3 modification. The Illinois EPA has reviewed the Class 3 modification submitted and has tentatively determined that CHSI may initiate the proposed modifications subject to the conditions imposed by the enclosed draft permit.

Enclosed is a draft modification of the RCRA Hazardous Waste Management Part B permit and fact sheet. This draft permit modification is based on the administrative record contained in the Illinois EPA's files. The contents of the administrative record are described in 35 Illinois Administrative Code (IAC) Section 705.144.

This draft permit is divided into two parts. A RCRA permit issued by IEPA and a Hazardous Waste Management Permit issued by USEPA. The USEPA permit generally contains only those

GEORGE H. RYAN, GOVERNOR

provisions and conditions raised pursuant to the Hazardous and Solid Waste Amendments of 1984 to RCRA (HSWA). The IEPA permit also enforces portions of HSWA where IEPA has authority to do so. Read both documents carefully. Failure to meet any portion of either permit could result in civil and/or criminal penalties.

A summary of the revisions to the Part B Permit is included in Attachment 1 to this letter.

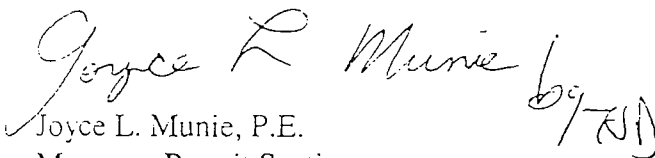
Under the provisions of 35 IAC 705.141(d), the draft permit modification and administrative record must be publicly noticed and made available for public comment. The Illinois EPA must also provide an opportunity for a public hearing. Copies of the draft decision and fact sheet are available for review at the Olive-Harvey College Library, 10001 S. Woodlawn Avenue, Chicago, Illinois 773/291-6100. The Illinois EPA has not scheduled a public hearing at the current time. The public comment period will close on May 21, 2001.

During the comment period, the applicant or any interested party may submit comments to the Illinois EPA on the draft permit for the RCRA Hazardous Waste Management permit. At the close of the comment period, the Illinois EPA will prepare a response to significant comments. Comments on the Hazardous Waste Management Permit may be submitted to Mara McGinnis, Illinois Environmental Protection Agency, 1021 North Grand Avenue East, Springfield, Illinois 62704-9276.

The Illinois will issue a final permit modification after the close of the public comment period unless the Illinois EPA decides to reverse the tentative decision. The appeal process and limitations are addressed in 35 Ill. Adm. Code 705.212.

Should you have any questions or comments regarding this permit, please contact Mark A. Schollenberger, P.E. of my staff at 217/524-3307. If you intend to seek review of the USEPA issued permit, please contact USEPA - Region V, Jim Blough at 312/886-2967 concerning the applicable review procedures.

Sincerely,

by (JL)

Joyce L. Munie, P.E.  
Manager, Permit Section  
Bureau of Land

JLM:MAS:bjh\963281s.doc

Attachments: Attachment 1  
Attachment 2  
Fact Sheet  
Draft Permit

cc: USEPA - Harriet Croke

bcc: Bureau File  
Maywood Region  
Ted Dragovich  
Hope Wright  
Mark A. Schollenberger  
Mara A. McGinnis (2)



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

**REGION 5**

**77 WEST JACKSON BOULEVARD**

**CHICAGO, IL 60604-3590**

REPLY TO THE ATTENTION OF:

**MAR 29 2001**

**DW-8J**

James R. Laubsted  
Facility Compliance Manager  
Clean Harbors Services, Incorporated  
11800 South Stony Island Avenue  
Chicago, Illinois 60617

**RE: Draft United States Environmental Protection Agency  
(U.S. EPA) RCRA Draft Permit Modification  
Clean Harbors Services, Incorporated  
Chicago, Illinois  
ILD 000 608 471**

Dear Mr. Laubsted:

Enclosed is a copy of the draft of the modified Federal portion of the Resource Conservation and Recovery Act (RCRA) permit. Copies of the joint fact sheet and the public notice will be sent to you by the Illinois Department of Environmental Protection Agency (IEPA)). The permit modification is based on the administrative record contained in the United States Environmental Protection Agency (U.S. EPA) files.

The Federal portion of the RCRA permit contains those provisions and conditions required pursuant to the Hazardous and Solid Waste Amendments of 1984 (HSWA) to RCRA. Please read the draft Federal permit carefully; failure to meet any portion of the final permit with incorporation of the modification could result in civil and/or criminal penalties.

Under the provisions of Title 40 of the Code of Federal Regulations (40 C.F.R.), Part 124, the draft permit modification and the administrative record must be publicly noticed and made available for public review. Copies of the administrative record log, public notice, permit information, and a fact sheet are available for review at the U.S. EPA office and also at the IEPA office. The public comment period begins April 5, 2001 on and ends on May 21, 2001.

During the public comment period, the Permittee or any interested party may submit comments to the U.S. EPA on the Federal portion of the draft RCRA permit. At the close of the comment period, the U.S. EPA will prepare a response to significant comments. Comments on the draft permit may be submitted to:

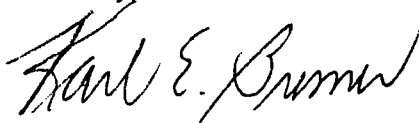
Waste Management Branch, DW-8J  
Waste, Pesticides and Toxics Division  
United States Environmental Protection Agency  
77 West Jackson Boulevard  
Chicago, Illinois 60604-3590

ATTENTION: Mr. Jim Blough

The U.S. EPA shall issue a final permit modification decision after the close of the public comment period. Any person who filed comments on the draft modification, or participated in the public hearing, has 30 days after the service of notice of the Regional Administrator's action to petition the U.S. EPA to contest the final permit decision. The appeal process and limitations are addressed in 40 C.F.R. Part 124.19.

If you have any questions concerning this draft permit, please contact Jim Blough of my staff, at (312) 886-2967.

Sincerely,



Karl E. Bremer, Chief  
Waste Management Branch

Enclosures

cc: Mark Schollenberger

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) PERMIT

Facility Name and Location : Clean Harbors Services, Incorporated  
11800 South Stony Island Avenue  
Chicago, Illinois 60617  
Owner(s): Illinois International Port District and  
Clean Harbors Services, Incorporated.  
Operator(s): Clean Harbors Services, Incorporated

U.S. EPA Identification Number: ILD 000 608 471

Effective Date: \_\_\_\_\_

Expiration Date: November 4, 2003

Authorized Activities:

Pursuant to the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA) of 1976, and the Hazardous and Solid Waste Amendments (HSWA) of 1984, (42 U.S.C. § 6901, et seq.), and regulations promulgated thereunder by the United States Environmental Protection Agency (U.S. EPA) (codified in Title 40 of the Code of Federal Regulations (40 CFR)), *modifications to the Federal portion of the RCRA permit* are issued to Clean Harbors Services, Incorporated, operator, and Illinois International Port District, owner, (hereinafter called the Permittees), for the facility located at 11800 South Stony Island Ave., Chicago, Illinois.

Permit Approval

The Permittees must comply with all terms and conditions of the Federal portion of the RCRA permit. The Federal portion of the RCRA permit contains both the effective Federal permit conditions that became effective on November 3, 1993 and the permit conditions contained in this modification, as well as any previous modifications to the Federal portion of the RCRA permit.

This permit modification is based on the assumption that the information submitted in support of the permit modification is accurate. Any inaccuracies found in this information may be grounds for the termination, revocation and reissuance, or further modification of this permit (see 40 CFR §§ 270.41, 270.42, and 270.43) and potential enforcement action. The Permittees must inform the U.S. EPA of any deviation from or changes in the information submitted in support of the modification as soon as the Permittees become aware of such deviation or changes.

**Opportunity to Appeal:**

Petitions for review must be submitted within 30 days after service of notice of the final permit modification decision. Any person who filed comments on the draft permit modification, or participated in the public hearing may petition the Environmental Appeals Board to review any condition of the permit modification decision. Any person who failed to file comments or failed to participate in the public hearing on the draft permit modification may petition for administrative review only to the extent of the changes from the draft permit modification to the final permit modification decision. The procedures for permit appeals are found in 40 CFR § 124.19.

**Effective Date:**

This permit is effective as of \_\_\_\_\_, unless a review is requested under 40 CFR § 124.19, and shall remain in effect until November 4, 2003, unless revoked and reissued, or terminated (40 CFR §§ 270.41 and 270.43), or continued in accordance with 40 CFR § 270.51.

BY: \_\_\_\_\_

Robert Springer, Director  
Waste, Pesticides and Toxics Division

DATE: \_\_\_\_\_



**DRAFT**

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**ILD 980 613 913**

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Clean Harbors Service, Incorporated and  
Illinois International Port District  
Chicago, Illinois

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## PERMIT CONDITIONS

(Note: The regulatory citations in parentheses are incorporated by reference.)

## I. STANDARD CONDITIONS

A. EFFECT OF PERMIT (40 CFR 270.4 and 270.30(g))

The Permittees are allowed to manage hazardous waste in accordance with the conditions of the RCRA permit. Any management of hazardous waste not authorized in the RCRA permit is prohibited.

Compliance with the RCRA permit during its term constitutes compliance, for the purposes of enforcement, with Subtitle C of RCRA, except for those requirements not included in the permit which become effective by statute, or which are promulgated under 40 CFR Part 268, restricting the placement of hazardous waste in or on the land. Issuance of this permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of State or local law or regulations. Compliance with the terms of this permit does not constitute a defense to any order issued or any action brought under Sections 3008(a), 3008(h), 3013, or 7003 of RCRA; Sections 104, 106(a), or 107 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (42 U.S.C. §9601 et seq., commonly known as CERCLA); or any other law providing for protection of public health or the environment.

B. PERMIT ACTIONS (40 CFR 270.30(f))

This permit may be modified, revoked and reissued, or terminated for cause as specified in 40 CFR 270.41, 270.42, and 270.43. This permit may also be reviewed and modified by the U.S. EPA, consistent with 40 CFR 270.41, to include any terms and conditions determined necessary to protect human health and the environment pursuant to Section 3005(c)(3) of RCRA. The filing of a request for a permit modification, revocation and reissuance, or termination, or the notification of planned changes, or anticipated noncompliance on the part of the Permittees does not stay the applicability or enforceability of any permit condition. The Permittees shall not perform any construction associated with a Class 3 permit modification request until such modification request is approved and the permit modification becomes effective.

C. SEVERABILITY (40 CFR 124.16)

The provisions of this permit are severable, and if any provision of this permit, or if the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

D. DUTIES AND REQUIREMENTS1. Duty to Comply. (40 CFR 270.30(a))

The Permittees shall comply with all conditions of this permit, except to the extent and for the duration such noncompliance is authorized by an emergency permit (See 40 CFR 270.61). Any permit noncompliance, other than noncompliance authorized by an emergency permit, constitutes a violation of RCRA and HSWA and is grounds for enforcement action, permit termination, revocation and reissuance, modification, denial of a permit renewal application, or other appropriate action.

2. Duty to Reapply. (40 CFR 270.30(b) and 40 CFR 270.10(h))

The Permittees shall submit a complete application for a new permit at least 180 days before this permit expires unless: a) the Permittees no longer wish to operate a hazardous waste management facility; b) the Permittees are no longer required to have a RCRA permit; or c) permission for a later date has been granted by the Regional Administrator. The Regional Administrator shall not grant permission for applications to be submitted later than the expiration date of the existing permit.

3. Permit Expiration. (40 CFR 270.13, 270.14, 270.50, and 270.51)

This permit and all conditions herein shall be effective for a fixed term not to exceed 10 years, and will remain in effect beyond the permit's expiration date only if the Permittees have submitted a timely, complete application (per 40 CFR 270.10 and applicable sections of 270.14 through 270.29): a) to both the U.S. EPA and the State; and b) through no fault of the Permittees, the Regional Administrator and the State have not issued a new permit, as set forth in 40 CFR 270.51.

4. Need to Halt or Reduce Activity Not a Defense. (40 CFR 270.30(c))

It shall not be a defense for the Permittees in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

5. Duty to Mitigate. (40 CFR 270.30(d))

In the event of releases or noncompliance with the permit, the Permittees shall take all reasonable steps to minimize releases to the environment and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health and the environment.

6. Proper Operation and Maintenance. (40 CFR 270.30(e))

The Permittees shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittees to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality control/quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

7. Duty to Provide Information. (40 CFR 270.30(h) and 264.74)

The Permittees shall furnish to the Regional Administrator, within the time designated by the Regional Administrator, any relevant information which the Regional Administrator may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The Permittees shall also furnish to the Regional Administrator, upon request, copies of records required to be kept by this permit.

8. Inspection and Entry. (40 CFR 270.30(i))

The Permittees shall allow the Regional Administrator, or an authorized representative, upon the presentation of credentials and other documents as may be required by law to:

- a. Enter at reasonable times upon the Permittees' premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
  - b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
  - c. Inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
  - d. Sample or monitor, at reasonable times, for the purposes of assuring permit compliance, or as otherwise authorized by RCRA, any substances or parameters at any location.
9. Monitoring and Recordkeeping. (40 CFR 270.30(j), 270.31, 264.73, and 264.74)

The Permittees shall retain all reports, records, or other documents, required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the reports, records or other documents. These periods may be extended by request of the Regional Administrator at any time and are automatically extended during the course of any unresolved enforcement action regarding this facility.

10. Reporting Planned Changes. (40 CFR 270.30(1)(1))

The Permittees shall give notice to the Regional Administrator of any planned physical alterations or additions to the permitted facility, as soon as possible, and at least 30 days before construction of such alteration or addition is commenced.

11. Anticipated Noncompliance. (40 CFR 270.30(1)(2))

The Permittees shall give advance notice to the Regional Administrator of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. Such notice does not constitute a waiver of the Permittees' duty to comply with permit requirements.

12. Transfer of Permits. (40 CFR 270.30(l)(3), 270.40(a), and 264.12(c))

This permit may be transferred by the Permittees to a new owner or operator only after providing notice to the Regional Administrator and only if the permit is modified, or revoked and reissued, pursuant to 40 CFR 270.40(b), 270.41(b)(2), or 270.42(a). Before transferring ownership or operation of the facility during its operating life, the Permittees shall notify the new owner or operator in writing of the requirements of 40 CFR Parts 264, 268, and 270 (including all applicable corrective action requirements), and shall provide a copy of the RCRA permit to the new owner or operator.

13. Compliance Schedules. (40 CFR 270.30(l)(5) and 270.33)

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted to the Regional Administrator no later than 14 days following each scheduled date.

14. Twenty-four Hour Reporting. (40 CFR 270.30(l)(6) and 270.33)

The Permittees shall report to the Regional Administrator any noncompliance with this permit which may endanger human health or the environment. Any such information shall be reported orally within 24 hours from the time the Permittees become aware of the circumstances. This report shall include the following:

- a. Information concerning the release of any hazardous waste which may endanger public drinking water supplies; and
- b. Information concerning the release or discharge of any hazardous waste, or of a fire or explosion at the facility, which could threaten the environment or human health outside the facility. The description of the occurrence and its cause shall include:
  - (1) Name, address, and telephone number of the owner or operator;
  - (2) Name, address, and telephone number of the facility;
  - (3) Date, time, and type of incident;

- (4) Name and quantity of material(s) involved;
- (5) The extent of injuries, if any;
- (6) An assessment of actual or potential hazard to the environment and human health outside the facility, where this is applicable; and
- (7) Estimated quantity and disposition of recovered material that resulted from the incident.

A written submission shall also be provided within 5 days of the time the Permittees become aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period(s) of noncompliance (including exact dates and times); steps taken to minimize impact on the environment; whether the noncompliance has been corrected, and if not, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate and prevent recurrence of the noncompliance. The Permittees need not comply with the 5-day written notice requirement if the Regional Administrator waives the requirement. Upon waiver of the 5-day requirement, the Permittees shall submit a written report within 15 days of the time the Permittees become aware of the circumstances.

15. Other Noncompliance. (40 CFR 270.30(1)(10))

The Permittees shall report all other instances of noncompliance not otherwise required to be reported above within 15 days of when the Permittees become aware of the noncompliance. The reports shall contain the information listed in Condition I.D.14.

16. Other Information. (40 CFR 270.30(1)(11))

Whenever the Permittees become aware that they failed to submit any relevant facts, or submitted incorrect information to the Regional Administrator in the permit application or in any reports, records, or other documentation provided to the Regional Administrator, the Permittees shall promptly submit such facts or information.

17. Submittal of Reports or Other Information. (40 CFR 270.30(1)(7), (8), and (9), and 270.31)

All reports or other information required to be submitted pursuant to this permit shall be sent to:



Waste Management Branch, DW-8J  
U.S. EPA, Region 5  
77 West Jackson Boulevard  
Chicago, Illinois 60604-3590

Attention: Technical Support & Permits Section

18. All other requirements contained in RCRA, as amended, and in 40 CFR 270.30 not set forth herein are hereby fully incorporated in this permit.

E. SIGNATORY REQUIREMENT (40 CFR 270.30(k))

All reports or other information submitted to or requested by the Regional Administrator, his designee, or authorized representative, shall be signed and certified as required by 40 CFR 270.11.

F. CONFIDENTIAL INFORMATION

In accordance with 40 CFR 270.12 and 40 CFR Part 2, Subpart B, any information submitted to the U.S. EPA pursuant to this permit may be claimed as confidential by the submitter. Any such claim must be asserted at the time of submission in the manner prescribed on the application form or instructions, or, in the case of other submissions, by marking the words "Confidential Business Information" on each page containing such information.

If no claim is made at time of submission, the U.S. EPA may make the information available to the public without further notice. If a claim is asserted, the information will be treated in accordance with the procedures in 40 CFR Part 2.

G. DOCUMENTS TO BE MAINTAINED AT THE FACILITY

The Permittees shall maintain at the facility, until closure is completed and certified by an independent registered professional engineer, all items required by 40 CFR 264.73, including the following documents and all amendments, revisions, and modifications to these documents:

1. Waste Analysis Plan, as required by 40 CFR 264.13 and this permit;
2. Operating Record, as required by 40 CFR 264.73 and this permit;

3. Notifications from generators accompanying each incoming shipment of wastes subject to 40 CFR Part 268, Subpart C, that specify treatment standards, as required by 40 CFR 264.73, 268.7, and this permit; and
4. Records regarding closed-vent systems and control devices and/or equipment leaks as required by 40 CFR 264.1035, 264.1064, and 264.73, and Condition III.G. of this permit.

## II. LAND DISPOSAL REQUIREMENTS

### A. GENERAL CONDITIONS

1. The Permittees shall comply with all the applicable self-implementing requirements of 40 CFR Part 268 and all applicable land disposal requirements which become effective by statute (Section 3004 of RCRA).
2. A mixture of any restricted waste with nonrestricted waste(s) is a restricted waste under 40 CFR Part 268.
3. The Permittees shall not in any way dilute a restricted waste or the residual from treatment of a restricted waste as a substitute for adequate treatment to achieve compliance with 40 CFR Part 268, Subpart D, to circumvent the effective date of a prohibition in 40 CFR Part 268, Subpart C, to otherwise avoid a prohibition in 40 CFR Part 268, Subpart C, or to circumvent a land disposal prohibition imposed by Section 3004 of RCRA.
4. The Permittees shall prepare and maintain a current list of the hazardous waste codes handled by the facility that are identified in 40 CFR 268, Subparts B and C. The list shall include all waste codes handled by the facility, and any associated treatment standards, and shall be updated through the inclusion of new treatment standards, as promulgated or amended. This list shall be provided to the U.S. EPA representatives, or their designees, upon request.
5. The Permittees shall not dilute metal-bearing wastes (listed in Appendix XI of 40 CFR Part 268) during the fuel blending operations, unless you demonstrate that the waste complies with one or more of the criteria specified in 40 CFR § 268.3(c).

B. TESTING AND RELATED REQUIREMENTS

1. The Permittees must test, in accordance with 40 CFR 268.7(a), any waste generated at the facility, or use knowledge of the waste, to determine if the waste is restricted from land disposal.
2. For restricted wastes with treatment standards expressed as concentrations in the waste extract, as specified in 40 CFR 268.41, the Permittees shall test the wastes or waste residues, or extracts of such residues developed using the test methods described in Appendix II of 40 CFR Part 261 (Toxicity Characteristic Leaching Procedure, or TCLP) to assure that the wastes or waste treatment residues or extracts meet the applicable treatment standards of 40 CFR Part 268, Subpart D. Such testing shall be performed as required by 40 CFR 264.13.
3. A restricted waste for which a treatment technology is specified under 40 CFR 268.42(a) may be land disposed after it is treated using that specified technology or an equivalent treatment method approved by the Administrator under the procedures set forth in 40 CFR 268.42(b).
4. For restricted wastes with treatment standards expressed as concentrations in the waste, as specified in 40 CFR 268.43, the Permittees shall test the wastes or treatment residues (not extract of such residues) to assure that the wastes or waste treatment residues meet the applicable treatment standards of 40 CFR Part 268, Subpart D. Such testing shall be performed as required by 40 CFR 264.13.
5. The Permittees shall comply with all the applicable notification, certification, and recordkeeping requirements described in 40 CFR 268.7(a) and (b).

C. STORAGE PROHIBITIONS

1. The Permittees shall comply with all the applicable prohibitions on storage of restricted wastes specified in 40 CFR Part 268, Subpart E.
2. Except as otherwise provided in 40 CFR 268.50, the Permittees may store restricted wastes in tanks and containers solely for the purpose of the accumulation of such quantities of hazardous wastes as necessary to facilitate proper recovery, treatment, or disposal provided that:
  - a. Each container is clearly marked to identify its contents and the date each period of accumulation begins; and

- b. Each tank is clearly marked with a description of its contents, the quantity of each hazardous waste received, and the date each period of accumulation begins, or such information for each tank is recorded and maintained in the operating record at that facility.
3. The Permittees may store restricted wastes for up to 1 year unless the U.S. EPA or its authorized agent can demonstrate that such storage was not solely for the purpose of accumulating such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment or disposal.
4. The Permittees may store restricted wastes beyond 1 year; however, the Permittees bear the burden of proving that such storage was solely for the purpose of accumulating such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment or disposal.
5. The Permittees shall not store any liquid hazardous waste containing polychlorinated biphenyls (PCBs) at concentrations greater than or equal to 50 ppm unless the waste is stored in a storage facility that meets the requirements of 40 CFR 761.65(b). This waste must be removed from storage and treated or disposed as required by 40 CFR Part 268 within 1 year of the date when such wastes are first put into storage. Condition II.C.4. above, that allows storage for over 1 year with specified demonstration, does not apply to PCB wastes prohibited under 40 CFR 268.32.

### III. AIR EMISSION STANDARDS (40 CFR Part 264, Subpart CC)

#### A. WASTE DETERMINATION

Waste determination procedures for: (1) average volatile organic (VO) concentration of a hazardous waste at the point of origination, (2) treated hazardous waste, and (3) the maximum organic vapor pressure of a hazardous waste in tanks; shall be in accordance with 40 CFR § 264.1083.

The waste determination may be waived if all hazardous wastes are treated as if they contain an average volatile organic concentration of 500 parts per million and greater by weight (ppmw) and the Subpart CC rule applies to all containers and tanks, except those exempted under 40 CFR § 264.1080.

#### B. GENERAL STANDARDS FOR TANKS AND CONTAINERS

The Permittees shall comply with with all applicable requirements of Title 40 CFR Part 264, Subpart CC, regarding air emission standards for tanks and containers.

Under this permit, you must demonstrate, by direct measurement or approved method, that for each tank or container you claim to be exempt under Subpart CC, the average VO concentration for hazardous waste, determined in accordance with 40 CFR §§ 264.1083(a) and 265.1084(a) (2) and (3), is less than 500 ppmw. For each tank or container, you must review and update this determination in accordance with 40 CFR § 264.1802(c) (1) at least once every 12 months following the date of the initial determination. For each tank or container, you must prepare and maintain the records described in 40 CFR § 264.1089(f). These records must be maintained as part of the operating record.

C. ROLL-OFF CONTAINERS STORAGE AREA

1. The Permittees shall equip the roll-off container with a cover and a closure device to form a continuous barrier over the container openings. The cover must remain closed and secure at all times except when adding and removing waste or other materials.
2. The Permittees shall implement an organic capturing system from:  
(1) the metal wash system, (2) sludge collection drum area, and  
(3) all material conveying systems.
3. The collected air stream shall be directed to a carbon adsorption system, designed to capture organic emissions in accordance with 40 CFR § 264.1033. The system shall be designed and constructed based on good engineering practices. The efficiency of the new system shall be tested in accordance with 40 CFR § 264.1032.

D. VENTILATION AND METAL CLEANING SUPPLEMENTAL ENVIRONMENTAL PROJECT

1. The Permittees shall design, construct, test, and place into operation a revised processing system. The conceptual design description referenced in attachment 32, entitled "Design Analysis of Air Pollution Control System Chicago Facility Flammable Tank Farm & Metal Wash System, and Fuel Blending/Shredding Tower System" (hereinafter referred to as the "Project"), shall be used as the basis of design.
2. The Project shall include, but not be limited to: (1) tandem drum shredders and magnetic separators, (2) enclosed conveyors and transfer chutes, (3) solid lugger bin and enclosure, (4) contaminated air filter box, (5) ventilation ductwork and (6) instrumentation and control.

3. The organic concentration in the transport ductwork shall not exceed 50% of the Lower Explosion Limit (LEL) based on the concentration of the organic constituents in the air stream. Provisions shall be incorporated into the design and maintained in accordance with the procedures recommended by the suppliers.
4. The filter box shall achieve a dust removal efficiency of 85% based on either the ASTM or NBS Atmospheric Dust Test Method and shall be monitored by pressure drop through the filter. The filter may be permanent or disposable and shall be maintained or replaced as necessary to ensure that pressure drop through the filter will not exceed the design set point.

E. DRUM ELEVATOR AND SHREDDER

1. The drum package unit, the dual shredders with hydraulic ram, and rotary magnetic separator unit shall be totally enclosed and shall be maintained at a slightly negative pressure, except when they are down for service.
2. The conveyor/drum lift outside the building shall at have a steel pan below the unit and shall comply with the requirements as stipulated in 40 CFR § 264.175, § 264.193, § 264.195, and § 264.196.
3. Inert gas shall be supplied to the enclosure to maintain an oxygen deficient environment inside the enclosure to eliminate explosion potential.
4. Temperature and pressure shall be continuously monitored and recorded. The fire/explosion suppression system shall be installed to prevent any fire/explosion hazards resulting from shredding of metal drums.
5. If the Permittees propose changes to the Project to improve the air emission control design, the changes must be approved by the EPA Region 5 Regional Administrator. The Permittees must follow the permit modification procedures found in 40 CFR § 270.42.

F. HYDRAPULPER AND VIBRATORY SCREEN

1. The emission control from hydrapulper and the vibratory screen shall include a vent from the hydrapulper and a vent over the vibratory screen.
2. The closed vents system shall be connected to a blower for discharging the contaminated air into the Carbon Absorption System.

G. CLOSED VENT SYSTEM AND CONTROL DEVICES (Carbon Absorption)

1. The closed vent systems and control devices shall comply with the requirements in 40 CFR § 264.1087. A closed vent system shall meet the requirements of 40 CFR § 264.1033(k).
2. The Carbon Absorption System shall have a minimum availability of 95%, including downtime for routine maintenance.
3. The Carbon Absorption System shall have a minimum destruction and removal efficiency of 95%, in accordance with 40 CFR § 264.1033(c).
4. The two-bed Carbon Absorption System shall be monitored each day by a flame ionization detector to demonstrate that the units are operating in accordance with procedures referenced in Method 21 (40 CFR Part 60).
5. After the Carbon Absorption System beds are spent, the beds shall be shipped, as a hazardous waste, to a RCRA permitted facility or sent to an approved facility for regeneration. All carbon removed from the control devices shall be disposed in accordance with 40 CFR § 264.1033.
6. The closed vent system shall not include any bypass devices that could be used to divert the gas or vapor stream to the atmosphere before entering the control device.
7. A flow-indicating sensor shall be installed in each closed-vent system and monitored once each hour to record and verify that the negative pressure is being maintained in each closed vent during operation.

H. REMOVAL AND DISPOSAL OF THE DISCARDED EQUIPMENT AND APPURTENANCES

The Permittees shall submit to the Regional Administrator for approval, a plan, consisting of decontamination, removal, and final disposition of all equipment and appurtenances in conjunction with implementation of the Project.

I. DESIGN CHANGES TO THE PROJECT

If the Permittees propose changes to the Project to improve the air emission control design, Conditions III. D, E, and F may be modified with the approval of the Regional Administrator or his or her delegatee. The Permittees must follow the permit modification procedures found in 40 CFR § 270.42.

J. RECORDKEEPING AND REPORTING

The Permittees shall comply with all applicable recordkeeping and reporting requirements described in 40 CFR § 264.1089 and § 264.1090.

K. NOTIFICATION OF REGULATED ACTIVITY

The Permittees shall notify the Regional Administrator of any waste management units which become subject to the requirements of 40 CFR Part 264, Subpart CC, within 30 days of startup of the regulated activity.

L. DUTY TO COMPLY WITH FUTURE REQUIREMENTS

The Permittees shall comply with all self-implementing provisions of any future air regulations promulgated under the provisions of Section 3004(n) of RCRA, as amended by HSWA.

## IV. OTHER FEDERAL RCRA REQUIREMENTS

1. The Permittees shall comply with any new requirements of 40 CFR Subparts AA and BB regarding air emission standards for process vents and equipment leaks for which the State of Illinois has not been authorized to administer.
2. In addition to the waste codes listed in the State-issued portion of the RCRA permit, the Permittees may handle at your facility newly listed hazardous wastes promulgated under the HSWA. All handling of these waste codes must comply with the applicable provisions of both the State-issued portion and the Federally-issued portion of the RCRA permit.



**FACT SHEET**

**MODIFICATION TO THE FEDERAL RCRA PERMIT  
ISSUED TO CLEAN HARBORS SERVICE, CHICAGO, ILLINOIS  
EFFECTIVE NOVEMBER 4, 1993  
ILD 000 608 471**

In accordance with Title 40 Code of Federal Regulations (40 CFR) § 270.41 Modification or revocation and reissuance of permits, the RCRA permit modification is hereby issued to Clean Harbors Service, Inc. located at 11800 South Stony Island Avenue, Chicago, Illinois.

This modified permit, together with the Illinois Environmental Protection Agency's permit comprises the Resource Conservation and Recovery Act (RCRA) permit which has been prepared based on the information provided by Clean Harbors Service, Inc. on its proposed system changes and improvements to control organic air emissions from its hazardous waste storage and process equipment. The proposed equipment modification submitted to U.S. EPA is referenced in this permit modification and is an integral and enforceable part of this modified permit.

The modified Federal RCRA permit is organized as follows:

- I. Standard Conditions
- II. Land Disposal Restrictions
- III. Air Emission Standards
- IV. Other Federal RCRA Requirements
- V. Schedule of Compliance

**Summary of Permit Modification**

1. The Facility Name has been changed from Clean Harbors of Chicago, Incorporated to Clean Harbors Service, Incorporated.
2. The signature of Norman R. Niedergang, Associate Division Director, Office of RCRA, Waste Management Division has been changed to Robert Springer, Director, Waste, Pesticides and Toxics Division, due to reorganization of Region 5, U.S. EPA.
3. Section I. Mail code and section name has been updated.
4. Section II. Land Disposal Restrictions - a paragraph has been added.
5. Section III. Toxicity Characteristics has been deleted, because the State of Illinois has been authorized for administering the rule.

6. Section IV Air Emission Standards is deleted and replaced with a new Section III. Air Emission Standards as follows:
  - III.A Waste Determination
  - III.B General Standards for Tanks and Containers
  - III.C Roll-Off Container Storage Area
  - III.D Ventilation and Metal Cleaning Supplemental Environmental Project
  - III.E Drum Elevator and Shredder
  - III.F Hydrapulper and Vibratory Screen
  - III.G Closed Vent System and Control Devices (Carbon Absorption System)
  - III.H Removal and Disposal of the Discarded Equipment and Appurtenances
  - III.I Design Changes to the Project
  - III.J Recordkeeping and Reporting
  - III.K Notification of Regulated Activity
  - III.L Duty to Comply with Future Requirements
7. A new Section IV - Other Federal RCRA Requirements is added.
8. Page numbering has been changed due to additions and deletions of permit conditions. The total number of pages has increased from 10 to 14.



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF

**MAR 29 2001**

DW-8J

James R. Laubsted  
Facility Compliance Manager  
Clean Harbors Services, Incorporated  
11800 South Stony Island Avenue  
Chicago, Illinois 60617

**RE: Draft United States Environmental Protection Agency  
(U.S. EPA) RCRA Draft Permit Modification  
Clean Harbors Services, Incorporated  
Chicago, Illinois  
ILD 000 608 471**

Dear Mr. Laubsted:

Enclosed is a copy of the draft of the modified Federal portion of the Resource Conservation and Recovery Act (RCRA) permit. Copies of the joint fact sheet and the public notice will be sent to you by the Illinois Department of Environmental Protection Agency (IEPA)). The permit modification is based on the administrative record contained in the United States Environmental Protection Agency (U.S. EPA) files.

The Federal portion of the RCRA permit contains those provisions and conditions required pursuant to the Hazardous and Solid Waste Amendments of 1984 (HSWA) to RCRA. Please read the draft Federal permit carefully; failure to meet any portion of the final permit with incorporation of the modification could result in civil and/or criminal penalties.

Under the provisions of Title 40 of the Code of Federal Regulations (40 C.F.R.), Part 124, the draft permit modification and the administrative record must be publicly noticed and made available for public review. Copies of the administrative record log, public notice, permit information, and a fact sheet are available for review at the U.S. EPA office and also at the IEPA office. The public comment period begins \_\_\_\_\_ on and ends on \_\_\_\_\_.

During the public comment period, the Permittee or any interested party may submit comments to the U.S. EPA on the Federal portion of the draft RCRA permit. At the close of the comment period, the U.S. EPA will prepare a response to significant comments. Comments on the draft permit may be submitted to:

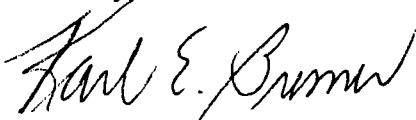
Waste Management Branch, DW-8J  
Waste, Pesticides and Toxics Division  
United States Environmental Protection Agency  
77 West Jackson Boulevard  
Chicago, Illinois 60604-3590

ATTENTION: Mr. Jim Blough

The U.S. EPA shall issue a final permit modification decision after the close of the public comment period. Any person who filed comments on the draft modification, or participated in the public hearing, has 30 days after the service of notice of the Regional Administrator's action to petition the U.S. EPA to contest the final permit decision. The appeal process and limitations are addressed in 40 C.F.R. Part 124.19.

If you have any questions concerning this draft permit, please contact Jim Blough of my staff, at (312) 886-2967.

Sincerely,



Karl E. Bremer, Chief  
Waste Management Branch

Enclosures

cc: Mark Schollenberger

DW-8J:BLOUGH:jb:02/08/01:886-2967:J.BLOUGH DISK

WASTE MANAGEMENT BRANCH

SECRETARY	SECRETARY	SECRETARY	SECRETARY
TYPIST/ AUTHOR	TECH. SUPP/ PERMITS SECTION CHIEF	POL. PREV. & SPEC. INTIV SEC. CHIEF	WMB BRANCH CHIEF
AB			KSS 3/29/01

file:c:\clean harbor\final\draftletter

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) PERMIT

Facility Name and Location : Clean Harbors Services, Incorporated  
11800 South Stony Island Avenue  
Chicago, Illinois 60617  
Owner(s): Illinois International Port District and  
Clean Harbors Services, Incorporated.  
Operator(s): Clean Harbors Services, Incorporated

U.S. EPA Identification Number: ILD 000 608 471

Effective Date: \_\_\_\_\_

Expiration Date: November 4, 2003

Authorized Activities:

Pursuant to the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA) of 1976, and the Hazardous and Solid Waste Amendments (HSWA) of 1984, (42 U.S.C. § 6901, *et seq.*), and regulations promulgated thereunder by the United States Environmental Protection Agency (U.S. EPA) (codified in Title 40 of the Code of Federal Regulations (40 CFR)), *modifications to the Federal portion of the RCRA permit* are issued to Clean Harbors Services, Incorporated, operator, and Illinois International Port District, owner, (hereinafter called the Permittees), for the facility located at 11800 South Stony Island Ave., Chicago, Illinois.

Permit Approval

The Permittees must comply with all terms and conditions of the Federal portion of the RCRA permit. The Federal portion of the RCRA permit contains both the effective Federal permit conditions that became effective on November 4, 1993 and the permit conditions contained in this modification, as well as any previous modifications to the Federal portion of the RCRA permit.

This permit modification is based on the assumption that the information submitted in support of the permit modification is accurate. Any inaccuracies found in this information may be grounds for the termination, revocation and reissuance, or further modification of this permit (see 40 CFR §§ 270.41, 270.42, and 270.43) and potential enforcement action. The Permittees must inform the U.S. EPA of any deviation from or changes in the information submitted in support of the modification as soon as the Permittees become aware of such deviation or changes.

**Opportunity to Appeal:**

Petitions for review must be submitted within 30 days after service of notice of the final permit modification decision. Any person who filed comments on the draft permit modification, or participated in the public hearing may petition the Environmental Appeals Board to review any condition of the permit modification decision. Any person who failed to file comments or failed to participate in the public hearing on the draft permit modification may petition for administrative review only to the extent of the changes from the draft permit modification to the final permit modification decision. The procedures for permit appeals are found in 40 CFR§ 124.19.

**Effective Date:**

This permit is effective as of \_\_\_\_\_, unless a review is requested under 40 CFR § 124.19, and shall remain in effect until November 4, 2003, unless revoked and reissued, or terminated (40 CFR §§ 270.41 and 270.43), or continued in accordance with 40 CFR § 270.51.

BY: \_\_\_\_\_  
Robert Springer, Director  
Waste, Pesticides and Toxics Division

DATE: \_\_\_\_\_

clean harbor\ final\Clean harbor draft mode cover



Clean Harbors Service, Incorporated and  
Illinois International Port District  
Chicago, Illinois

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# PERMIT CONDITIONS

(Note: The regulatory citations in parentheses are incorporated by reference.)

## I. STANDARD CONDITIONS

### A. EFFECT OF PERMIT (40 CFR 270.4 and 270.30(g))

The Permittees are allowed to manage hazardous waste in accordance with the conditions of the RCRA permit. Any management of hazardous waste not authorized in the RCRA permit is prohibited.

Compliance with the RCRA permit during its term constitutes compliance, for the purposes of enforcement, with Subtitle C of RCRA, except for those requirements not included in the permit which become effective by statute, or which are promulgated under 40 CFR Part 268, restricting the placement of hazardous waste in or on the land. Issuance of this permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of State or local law or regulations. Compliance with the terms of this permit does not constitute a defense to any order issued or any action brought under Sections 3008(a), 3008(h), 3013, or 7003 of RCRA; Sections 104, 106(a), or 107 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (42 U.S.C. §9601 et seq., commonly known as CERCLA); or any other law providing for protection of public health or the environment.

### B. PERMIT ACTIONS (40 CFR 270.30(f))

This permit may be modified, revoked and reissued, or terminated for cause as specified in 40 CFR 270.41, 270.42, and 270.43. This permit may also be reviewed and modified by the U.S. EPA, consistent with 40 CFR 270.41, to include any terms and conditions determined necessary to protect human health and the environment pursuant to Section 3005(c)(3) of RCRA. The filing of a request for a permit modification, revocation and reissuance, or termination, or the notification of planned changes, or anticipated noncompliance on the part of the Permittees does not stay the applicability or enforceability of any permit condition. The Permittees shall not perform any construction associated with a Class 3 permit modification request until such modification request is approved and the permit modification becomes effective.

C. SEVERABILITY (40 CFR 124.16)

The provisions of this permit are severable, and if any provision of this permit, or if the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

D. DUTIES AND REQUIREMENTS1. Duty to Comply. (40 CFR 270.30(a))

The Permittees shall comply with all conditions of this permit, except to the extent and for the duration such noncompliance is authorized by an emergency permit (See 40 CFR 270.61). Any permit noncompliance, other than noncompliance authorized by an emergency permit, constitutes a violation of RCRA and HSWA and is grounds for enforcement action, permit termination, revocation and reissuance, modification, denial of a permit renewal application, or other appropriate action.

2. Duty to Reapply. (40 CFR 270.30(b) and 40 CFR 270.10(h))

The Permittees shall submit a complete application for a new permit at least 180 days before this permit expires unless: a) the Permittees no longer wish to operate a hazardous waste management facility; b) the Permittees are no longer required to have a RCRA permit; or c) permission for a later date has been granted by the Regional Administrator. The Regional Administrator shall not grant permission for applications to be submitted later than the expiration date of the existing permit.

3. Permit Expiration. (40 CFR 270.13, 270.14, 270.50, and 270.51)

This permit and all conditions herein shall be effective for a fixed term not to exceed 10 years, and will remain in effect beyond the permit's expiration date only if the Permittees have submitted a timely, complete application (per 40 CFR 270.10 and applicable sections of 270.14 through 270.29): a) to both the U.S. EPA and the State; and b) through no fault of the Permittees, the Regional Administrator and the State have not issued a new permit, as set forth in 40 CFR 270.51.

4. Need to Halt or Reduce Activity Not a Defense. (40 CFR 270.30(c))

It shall not be a defense for the Permittees in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

5. Duty to Mitigate. (40 CFR 270.30(d))

In the event of releases or noncompliance with the permit, the Permittees shall take all reasonable steps to minimize releases to the environment and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health and the environment.

6. Proper Operation and Maintenance. (40 CFR 270.30(e))

The Permittees shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittees to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality control/quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

7. Duty to Provide Information. (40 CFR 270.30(h) and 264.74)

The Permittees shall furnish to the Regional Administrator, within the time designated by the Regional Administrator, any relevant information which the Regional Administrator may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The Permittees shall also furnish to the Regional Administrator, upon request, copies of records required to be kept by this permit.

8. Inspection and Entry. (40 CFR 270.30(i))

The Permittees shall allow the Regional Administrator, or an authorized representative, upon the presentation of credentials and other documents as may be required by law to:

- a. Enter at reasonable times upon the Permittees' premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
  - b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
  - c. Inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
  - d. Sample or monitor, at reasonable times, for the purposes of assuring permit compliance, or as otherwise authorized by RCRA, any substances or parameters at any location.
9. Monitoring and Recordkeeping. (40 CFR 270.30(j), 270.31, 264.73, and 264.74)

The Permittees shall retain all reports, records, or other documents, required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the reports, records or other documents. These periods may be extended by request of the Regional Administrator at any time and are automatically extended during the course of any unresolved enforcement action regarding this facility.

10. Reporting Planned Changes. (40 CFR 270.30(1)(1))

The Permittees shall give notice to the Regional Administrator of any planned physical alterations or additions to the permitted facility, as soon as possible, and at least 30 days before construction of such alteration or addition is commenced.

11. Anticipated Noncompliance. (40 CFR 270.30(1)(2))

The Permittees shall give advance notice to the Regional Administrator of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. Such notice does not constitute a waiver of the Permittees' duty to comply with permit requirements.

12. Transfer of Permits. (40 CFR 270.30(1)(3), 270.40(a), and 264.12(c))

This permit may be transferred by the Permittees to a new owner or operator only after providing notice to the Regional Administrator and only if the permit is modified, or revoked and reissued, pursuant to 40 CFR 270.40(b), 270.41(b)(2), or 270.42(a). Before transferring ownership or operation of the facility during its operating life, the Permittees shall notify the new owner or operator in writing of the requirements of 40 CFR Parts 264, 268, and 270 (including all applicable corrective action requirements), and shall provide a copy of the RCRA permit to the new owner or operator.

13. Compliance Schedules. (40 CFR 270.30(1)(5) and 270.33)

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted to the Regional Administrator no later than 14 days following each scheduled date.

14. Twenty-four Hour Reporting. (40 CFR 270.30(1)(6) and 270.33)

The Permittees shall report to the Regional Administrator any noncompliance with this permit which may endanger human health or the environment. Any such information shall be reported orally within 24 hours from the time the Permittees become aware of the circumstances. This report shall include the following:

- a. Information concerning the release of any hazardous waste which may endanger public drinking water supplies; and
- b. Information concerning the release or discharge of any hazardous waste, or of a fire or explosion at the facility, which could threaten the environment or human health outside the facility. The description of the occurrence and its cause shall include:
  - (1) Name, address, and telephone number of the owner or operator;
  - (2) Name, address, and telephone number of the facility;
  - (3) Date, time, and type of incident;

- (4) Name and quantity of material(s) involved;
- (5) The extent of injuries, if any;
- (6) An assessment of actual or potential hazard to the environment and human health outside the facility, where this is applicable; and
- (7) Estimated quantity and disposition of recovered material that resulted from the incident.

A written submission shall also be provided within 5 days of the time the Permittees become aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period(s) of noncompliance (including exact dates and times); steps taken to minimize impact on the environment; whether the noncompliance has been corrected, and if not, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate and prevent recurrence of the noncompliance. The Permittees need not comply with the 5-day written notice requirement if the Regional Administrator waives the requirement. Upon waiver of the 5-day requirement, the Permittees shall submit a written report within 15 days of the time the Permittees become aware of the circumstances.

15. Other Noncompliance. (40 CFR 270.30(1)(10))

The Permittees shall report all other instances of noncompliance not otherwise required to be reported above within 15 days of when the Permittees become aware of the noncompliance. The reports shall contain the information listed in Condition I.D.14.

16. Other Information. (40 CFR 270.30(1)(11))

Whenever the Permittees become aware that they failed to submit any relevant facts, or submitted incorrect information to the Regional Administrator in the permit application or in any reports, records, or other documentation provided to the Regional Administrator, the Permittees shall promptly submit such facts or information.

17. Submittal of Reports or Other Information. (40 CFR 270.30(1)(7), (8), and (9), and 270.31)

All reports or other information required to be submitted pursuant to this permit shall be sent to:

Waste Management Branch, DW-8J  
U.S. EPA, Region 5  
77 West Jackson Boulevard  
Chicago, Illinois 60604-3590

Attention: Technical Support & Permits Section

18. All other requirements contained in RCRA, as amended, and in 40 CFR 270.30 not set forth herein are hereby fully incorporated in this permit.

E. SIGNATORY REQUIREMENT (40 CFR 270.30(k))

All reports or other information submitted to or requested by the Regional Administrator, his designee, or authorized representative, shall be signed and certified as required by 40 CFR 270.11.

F. CONFIDENTIAL INFORMATION

In accordance with 40 CFR 270.12 and 40 CFR Part 2, Subpart B, any information submitted to the U.S. EPA pursuant to this permit may be claimed as confidential by the submitter. Any such claim must be asserted at the time of submission in the manner prescribed on the application form or instructions, or, in the case of other submissions, by marking the words "Confidential Business Information" on each page containing such information.

If no claim is made at time of submission, the U.S. EPA may make the information available to the public without further notice. If a claim is asserted, the information will be treated in accordance with the procedures in 40 CFR Part 2.

G. DOCUMENTS TO BE MAINTAINED AT THE FACILITY

The Permittees shall maintain at the facility, until closure is completed and certified by an independent registered professional engineer, all items required by 40 CFR 264.73, including the following documents and all amendments, revisions, and modifications to these documents:

1. Waste Analysis Plan, as required by 40 CFR 264.13 and this permit;
2. Operating Record, as required by 40 CFR 264.73 and this permit;



3. Notifications from generators accompanying each incoming shipment of wastes subject to 40 CFR Part 268, Subpart C, that specify treatment standards, as required by 40 CFR 264.73, 268.7, and this permit; and
4. Records regarding closed-vent systems and control devices and/or equipment leaks as required by 40 CFR 264.1035, 264.1064, and 264.73, and Condition III.G. of this permit.

## II. LAND DISPOSAL REQUIREMENTS

### A. GENERAL CONDITIONS

1. The Permittees shall comply with all the applicable self-implementing requirements of 40 CFR Part 268 and all applicable land disposal requirements which become effective by statute (Section 3004 of RCRA).
2. A mixture of any restricted waste with nonrestricted waste(s) is a restricted waste under 40 CFR Part 268.
3. The Permittees shall not in any way dilute a restricted waste or the residual from treatment of a restricted waste as a substitute for adequate treatment to achieve compliance with 40 CFR Part 268, Subpart D, to circumvent the effective date of a prohibition in 40 CFR Part 268, Subpart C, to otherwise avoid a prohibition in 40 CFR Part 268, Subpart C, or to circumvent a land disposal prohibition imposed by Section 3004 of RCRA.
4. The Permittees shall prepare and maintain a current list of the hazardous waste codes handled by the facility that are identified in 40 CFR 268, Subparts B and C. The list shall include all waste codes handled by the facility, and any associated treatment standards, and shall be updated through the inclusion of new treatment standards, as promulgated or amended. This list shall be provided to the U.S. EPA representatives, or their designees, upon request.
5. The Permittees shall not dilute metal-bearing wastes (listed in Appendix XI of 40 CFR Part 268) during the fuel blending operations, unless you demonstrate that the waste complies with one or more of the criteria specified in 40 CFR § 268.3(c).

B. TESTING AND RELATED REQUIREMENTS

1. The Permittees must test, in accordance with 40 CFR 268.7(a), any waste generated at the facility, or use knowledge of the waste, to determine if the waste is restricted from land disposal.
2. For restricted wastes with treatment standards expressed as concentrations in the waste extract, as specified in 40 CFR 268.41, the Permittees shall test the wastes or waste residues, or extracts of such residues developed using the test methods described in Appendix II of 40 CFR Part 261 (Toxicity Characteristic Leaching Procedure, or TCLP) to assure that the wastes or waste treatment residues or extracts meet the applicable treatment standards of 40 CFR Part 268, Subpart D. Such testing shall be performed as required by 40 CFR 264.13.
3. A restricted waste for which a treatment technology is specified under 40 CFR 268.42(a) may be land disposed after it is treated using that specified technology or an equivalent treatment method approved by the Administrator under the procedures set forth in 40 CFR 268.42(b).
4. For restricted wastes with treatment standards expressed as concentrations in the waste, as specified in 40 CFR 268.43, the Permittees shall test the wastes or treatment residues (not extract of such residues) to assure that the wastes or waste treatment residues meet the applicable treatment standards of 40 CFR Part 268, Subpart D. Such testing shall be performed as required by 40 CFR 264.13.
5. The Permittees shall comply with all the applicable notification, certification, and recordkeeping requirements described in 40 CFR 268.7(a) and (b).

C. STORAGE PROHIBITIONS

1. The Permittees shall comply with all the applicable prohibitions on storage of restricted wastes specified in 40 CFR Part 268, Subpart E.
2. Except as otherwise provided in 40 CFR 268.50, the Permittees may store restricted wastes in tanks and containers solely for the purpose of the accumulation of such quantities of hazardous wastes as necessary to facilitate proper recovery, treatment, or disposal provided that:
  - a. Each container is clearly marked to identify its contents and the date each period of accumulation begins; and

- b. Each tank is clearly marked with a description of its contents, the quantity of each hazardous waste received, and the date each period of accumulation begins, or such information for each tank is recorded and maintained in the operating record at that facility.
3. The Permittees may store restricted wastes for up to 1 year unless the U.S. EPA or its authorized agent can demonstrate that such storage was not solely for the purpose of accumulating such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment or disposal.
4. The Permittees may store restricted wastes beyond 1 year; however, the Permittees bear the burden of proving that such storage was solely for the purpose of accumulating such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment or disposal.
5. The Permittees shall not store any liquid hazardous waste containing polychlorinated biphenyls (PCBs) at concentrations greater than or equal to 50 ppm unless the waste is stored in a storage facility that meets the requirements of 40 CFR 761.65(b). This waste must be removed from storage and treated or disposed as required by 40 CFR Part 268 within 1 year of the date when such wastes are first put into storage. Condition II.C.4. above, that allows storage for over 1 year with specified demonstration, does not apply to PCB wastes prohibited under 40 CFR 268.32.

### III. AIR EMISSION STANDARDS (40 CFR Part 264, Subpart CC)

#### A. WASTE DETERMINATION

Waste determination procedures for: (1) average volatile organic (VO) concentration of a hazardous waste at the point of origination, (2) treated hazardous waste, and (3) the maximum organic vapor pressure of a hazardous waste in tanks; shall be in accordance with 40 CFR § 264.1083.

The waste determination may be waived if all hazardous wastes are treated as if they contain an average volatile organic concentration of 500 parts per million and greater by weight (ppmw) and the Subpart CC rule applies to all containers and tanks, except those exempted under 40 CFR § 264.1080.

#### B. GENERAL STANDARDS FOR TANKS AND CONTAINERS

The Permittees shall comply with with all applicable requirements of Title 40 CFR Part 264, Subpart CC, regarding air emission standards for tanks and containers.

Under this permit, you must demonstrate, by direct measurement or approved method, that for each tank or container you claim to be exempt under Subpart CC, the average VO concentration for hazardous waste, determined in accordance with 40 CFR §§ 264.1083(a) and 265.1084(a) (2) and (3), is less than 500 ppmw. For each tank or container, you must review and update this determination in accordance with 40 CFR § 264.1802(c) (1) at least once every 12 months following the date of the initial determination. For each tank or container, you must prepare and maintain the records described in 40 CFR § 264.1089(f). These records must be maintained as part of the operating record.

C. ROLL-OFF CONTAINERS STORAGE AREA

1. The Permittees shall equip the roll-off container with a cover and a closure device to form a continuous barrier over the container openings. The cover must remain closed and secure at all times except when adding and removing waste or other materials.
2. The Permittees shall implement an organic capturing system from:  
(1) the metal wash system, (2) sludge collection drum area, and  
(3) all material conveying systems.
3. The collected air stream shall be directed to a carbon adsorption system, designed to capture organic emissions in accordance with 40 CFR § 264.1033. The system shall be designed and constructed based on good engineering practices. The efficiency of the new system shall be tested in accordance with 40 CFR § 264.1032.

D. VENTILATION AND METAL CLEANING SUPPLEMENTAL ENVIRONMENTAL PROJECT

1. The Permittees shall design, construct, test, and place into operation a revised processing system. The conceptual design description referenced in attachment 32, entitled "Design Analysis of Air Pollution Control System Chicago Facility Flammable Tank Farm & Metal Wash System, and Fuel Blending/Shredding Tower System" (hereinafter referred to as the "Project"), shall be used as the basis of design.
2. The Project shall include, but not be limited to: (1) tandem drum shredders and magnetic separators, (2) enclosed conveyors and transfer chutes, (3) solid lugger bin and enclosure, (4) contaminated air filter box, (5) ventilation ductwork and (6) instrumentation and control.

3. The organic concentration in the transport ductwork shall not exceed 50% of the Lower Explosion Limit (LEL) based on the concentration of the organic constituents in the air stream. Provisions shall be incorporated into the design and maintained in accordance with the procedures recommended by the suppliers.
4. The filter box shall achieve a dust removal efficiency of 85% based on either the ASTM or NBS Atmospheric Dust Test Method and shall be monitored by pressure drop through the filter. The filter may be permanent or disposable and shall be maintained or replaced as necessary to ensure that pressure drop through the filter will not exceed the design set point.

E. DRUM ELEVATOR AND SHREDDER

1. The drum package unit, the dual shredders with hydraulic ram, and rotary magnetic separator unit shall be totally enclosed and shall be maintained at a slightly negative pressure, except when they are down for service.
2. The conveyor/drum lift outside the building shall at have a steel pan below the unit and shall comply with the requirements as stipulated in 40 CFR § 264.175, § 264.193, § 264.195, and § 264.196.
3. Inert gas shall be supplied to the enclosure to maintain an oxygen deficient environment inside the enclosure to eliminate explosion potential.
4. Temperature and pressure shall be continuously monitored and recorded. The fire/explosion suppression system shall be installed to prevent any fire/explosion hazards resulting from shredding of metal drums.
5. If the Permittees propose changes to the Project to improve the air emission control design, the changes must be approved by the EPA Region 5 Regional Administrator. The Permittees must follow the permit modification procedures found in 40 CFR § 270.42.

F. HYDRAPULPER AND VIBRATORY SCREEN

1. The emission control from hydrapulper and the vibratory screen shall include a vent from the hydrapulper and a vent over the vibratory screen.
2. The closed vents system shall be connected to a blower for discharging the contaminated air into the Carbon Absorption System.

G. CLOSED VENT SYSTEM AND CONTROL DEVICES (Carbon Absorption)

1. The closed vent systems and control devices shall comply with the requirements in 40 CFR § 264.1087. A closed vent system shall meet the requirements of 40 CFR § 264.1033(k).
2. The Carbon Absorption System shall have a minimum availability of 95%, including downtime for routine maintenance.
3. The Carbon Absorption System shall have a minimum destruction and removal efficiency of 95%, in accordance with 40 CFR § 264.1033(c).
4. The two-bed Carbon Absorption System shall be monitored each day by a flame ionization detector to demonstrate that the units are operating in accordance with procedures referenced in Method 21 (40 CFR Part 60).
5. After the Carbon Absorption System beds are spent, the beds shall be shipped, as a hazardous waste, to a RCRA permitted facility or sent to an approved facility for regeneration. All carbon removed from the control devices shall be disposed in accordance with 40 CFR § 264.1033.
6. The closed vent system shall not include any bypass devices that could be used to divert the gas or vapor stream to the atmosphere before entering the control device.
7. A flow-indicating sensor shall be installed in each closed-vent system and monitored once each hour to record and verify that the negative pressure is being maintained in each closed vent during operation.

H. REMOVAL AND DISPOSAL OF THE DISCARDED EQUIPMENT AND APPURTENANCES

The Permittees shall submit to the Regional Administrator for approval, a plan, consisting of decontamination, removal, and final disposition of all equipment and appurtenances in conjunction with implementation of the Project.

I. DESIGN CHANGES TO THE PROJECT

If the Permittees propose changes to the Project to improve the air emission control design, Conditions III. D, E, and F may be modified with the approval of the Regional Administrator or his or her delegatee. The Permittees must follow the permit modification procedures found in 40 CFR § 270.42.

J. RECORDKEEPING AND REPORTING

The Permittees shall comply with all applicable recordkeeping and reporting requirements described in 40 CFR § 264.1089 and § 264.1090.

K. NOTIFICATION OF REGULATED ACTIVITY

The Permittees shall notify the Regional Administrator of any waste management units which become subject to the requirements of 40 CFR Part 264, Subpart CC, within 30 days of startup of the regulated activity.

L. DUTY TO COMPLY WITH FUTURE REQUIREMENTS

The Permittees shall comply with all self-implementing provisions of any future air regulations promulgated under the provisions of Section 3004(n) of RCRA, as amended by HSWA.

IV. OTHER FEDERAL RCRA REQUIREMENTS

1. The Permittees shall comply with any new requirements of 40 CFR Subparts AA and BB regarding air emission standards for process vents and equipment leaks for which the State of Illinois has not been authorized to administer.
2. In addition to the waste codes listed in the State-issued portion of the RCRA permit, the Permittees may handle at your facility newly listed hazardous wastes promulgated under the HSWA. All handling of these waste codes must comply with the applicable provisions of both the State-issued portion and the Federally-issued portion of the RCRA permit.

DRAFT

Clean Harbors Service, Incorporated  
ILD 000 608 471  
Page 15 of 14

C:\clean harbor\final\Draft permit 3-20 correction

**WASTE MANAGEMENT BRANCH**

SECRETARY	SECRETARY	SECRETARY	SECRETARY	SECRETARY	SECRETARY
TYPIST/ AUTHOR	CORRECTIVE ACTION SECTION CHIEF	TECH.SUPPO RT&PERMITS SECTION CHIEF	POL.PREV.& SPEC.INTIV SEC. CHIEF	WMB BRANCH CHIEF	WPTD DIVISION DIRECTOR



DW-8J:BLOUGH:jb:02/08/01:886-2967:J.BLOUGH DISK

**WASTE MANAGEMENT BRANCH**

SECRETARY	SECRETARY	SECRETARY	SECRETARY
TYPIST/ AUTHOR	TECH. SUPP/ PERMITS SECTION CHIEF	POL. PREV. & SPEC. INTIV SEC. CHIEF	WMB BRANCH CHIEF
<i>JB</i>			<i>KSA</i> <i>2/29/01</i>

file:c:clean harbor\final\draftletter

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## WASTE MANAGEMENT BRANCH

SECRETARY	SECRETARY	SECRETARY	SECRETARY	SECRETARY	SECRETARY
TYPIST/ AUTHOR	CORRECTIVE ACTION SECTION CHIEF	TECH.SUPPO RT&PERMITS SECTION CHIEF	POL.PREV.& SPEC.INTIV SEC. CHIEF	WMB BRANCH CHIEF	WPTD DIVISION DIRECTOR
<i>93</i>		<i>JPC</i> <i>3/29/01</i>		<i>KLP</i> <i>3/29/01</i>	

DW-8J:BLOUGH:jb:02/08/01:886-2967:J.BLOUGH DISK

WASTE MANAGEMENT BRANCH			
SECRETARY	SECRETARY	SECRETARY	SECRETARY
			3/27/01
TYPIST/ AUTHOR	TECH. SUPP/ PERMITS SECTION CHIEF	POL. PREV. & SPEC. INTIV SEC. CHIEF	WMB BRANCH CHIEF
JB	HRC 3/29/01		KEB 3/29/01

file:c:clean harbor\final\draftletter

## RCRA Draft Permit Sign-off

### Background

Facility Name (Owner)..... Clean Harbors Service, Inc  
 (Operator).....  
 Facility Location..... 11800 South State Island Avenue  
Chicago IL 60617  
 Facility ID Number..... ILD0000608471  
 Public Comment Period.....

### Type of Permit

☐ Operating      ☐ Treatment      ☐ Disposal      **Modifications:**  
☐ Post-Closure      ☐ Storage      ☒ Subpart X      ☐ Class 2      ☐ EPA Initiated  
☐ BIF      ☐ Incineration      ☐ Other      ☒ Class 3

### Review Package Content

☒ Draft Permit w/attachments      ☒ Fact Sheet      ☐ Administrative Record Index  
☐ Draft Public Notice      ☐ Statement of Basis      ☐ Administrative Record  
☒ Cover Letter to Facility      ☐ Other ( )

### Applicable Permit Conditions

☐ Land Disposal Restrictions      ☐ Other ( )  
☐ Air Emissions  
☐ CMI Imposed

### Concurrences

	<u>Initials</u>	<u>Date</u>
1. Permit Writer (Name): <u>Jim Bloussy</u> Phone Number: <u>986-2967</u>		
2. Section Secretary (Proofed)	<u>LB</u>	<u>3/2/01</u>
3. Technical Expert	<u>WCH</u>	<u>3/14/01</u>
4. Section Chief (Proofed)	<u>SH for HCH</u>	<u>12 MAR 01</u>
5. WMB Secretary (Logged-in only) <u>3/21/01</u> <u>PMB proofed 3/5/01 Changes needed 3/16/01</u>	<u>JMS</u>	<u>3/6/01</u>
6. IMS (in PMB) [Sign-off only if public-noticing will be done by the U.S. EPA. Cross out if not applicable.]	<u>/</u>	<u>/</u>
7. ORC ( Sign-off only when Corrective Action is required.) - Assistant Regional Counsel (Name): - Permit Coordinator (Name): - SWERB Section Chief (Name):	<u>See Concurrence attached</u>	
8. WMB Secretary (proofed and 2 <sup>nd</sup> logging)	<u>JMS</u>	<u>3/29/01</u>
9. WMB Chief	<u>KLS</u>	<u>3/29/01</u>

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 (Operator).....  
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Chicago IL 60617  
 Facility ID Number..... ILD0000608471  
 Public Comment Period.....

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### Applicable Permit Conditions

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☐ CMI Imposed

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3. Technical Expert	<u>MOH</u>	<u>3/14/01</u>
4. Section Chief (Proofed)	<u>StH for HC</u>	<u>12 MAR 01</u>
5. WMB Secretary (Logged-in only) <u>proofed 3/5/01 Changes needed 3/16/01</u>	<u>JMB</u>	<u>3/6/01</u>
6. IMS (in PMB) [Sign-off only if public-noticing will be done by the U.S. EPA. Cross out if not applicable.]		
7. ORC ( Sign-off only when Corrective Action is required ) - Assistant Regional Counsel (Name): <u>Andre Dausvietis</u> - Permit Coordinator (Name): <u>Jim</u> - SWERB Section Chief (Name):	<u>AD</u>	<u>3/16/01</u>
8. WMB Secretary (proofed and 2 <sup>nd</sup> logging)		
9. WMB Chief		

Andre Dausvietis 1470

8044

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**WASTE MANAGEMENT BRANCH**

SECRETARY	SECRETARY	SECRETARY	SECRETARY	SECRETARY	SECRETARY
TYPIST/ AUTHOR	CORRECTIVE ACTION SECTION CHIEF	TECH.SUPPO RT&PERMITS SECTION CHIEF	POL.PREV.& SPEC.INTIV SEC. CHIEF	WMB BRANCH CHIEF	WPTD DIVISION DIRECTOR
<i>GB</i>		<i>JHC</i> 3/29/01		<i>KLB</i> 3/29/01	

STATE OF ILLINOIS

## INVOICE - VOUCHER

FY2001

CHCI tear  
sheetsENVIRONMENTAL PROTECTION AGENCY  
ENVIRONMENTAL PROTECTION AGCY  
1021 N GRAND AVE EAST  
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AVAILABLE IF THE STATE FAILS  
TO COMPLY WITH THE ILLINOIS  
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540

2. Taxpayer Identification Number

2a. TIN Type

370628114

3. Vendor or Payee

ILLINOIS PRESS ASSOCIATION INC

900 COMMUNITY DRIVE  
SPRINGFIELD

IL 627035180

4. Voucher No.

27668

5. Voucher Date

05-22-01

6. Appropriation Account Code

065-53230-1200-00-00

7. Invoice Number

5549

8. Invoice Date

04-26-01

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3. Agency
4. Remittance Copy
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6. Agency
7. Retained By Vendor

Give Complete Description of Articles/Services Rendered or  
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11. Quantity

12. Units

13. Unit Price

14. Amount

CONTROL # /VENDOR INVOICE #/INV DATE /DOC

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/04-26-2001/1273

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Total Exp.	\$674.10		25. Total Payment Amount		\$674.10			\$674.10

For Agency Use Only

REF DOC:

SUBA: 30600

SUB SUBA: LP411

BLANKET OBL#:

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Approved for Payment

Receiving Officer

Date

Clerk

Head of Unit or Authorized Agent

Date

(Date)

Agency Head (Signature)



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To: Illinois E. P. A.  
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Date  
04/26/01

Page

Account: Illinois E. P. A. (600-915-101-001/04-05-01)

City and Newspaper	Insertion Date	Space Units	Total	Rate	Gross
0003 - Chicago, Daily Southtown	04/05/01	2 X 7	14.00	48.15	674.10

TOTAL \$ 674.10

RCVD FISCAL SERVICES

2001 APR 20 A 10 118

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RCVD FISCAL SERVICES



## Tweeter

Continued from page 1

The company recently acquired Chicago-based Douglas TV and United Audio Centers. On Wednesday, it also announced acquisition of the 5th

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## PUBLIC NOTICE OF HAZARDOUS WASTE PERMIT MODIFICATION

The Illinois Environmental Protection Agency (EPA) and U. S. EPA hereby give notice of intent to jointly modify the existing Resource Conservation and Recovery Act (RCRA) and Hazardous and Solid Waste Amendments (HSWA) permit held by Clean Harbors Services, Inc. The facility's mailing address is 11800 South Stony Island Ave., Chicago, Illinois 60617. Clean Harbors treats hazardous waste-contaminated wastewaters and blends hazardous waste fuels on-site. This modification would allow Clean Harbors to operate three additional process units (hydropulper, drum shredder and metal washer) and their ancillary equipment to facilitate their fuels blending and scrap metal recycling activities. In addition, the modification would allow temporary conversion of an existing bulk flammable liquid tank farm to blended liquids process storage and metal wash solvent storage until a new, four-tank flammable liquids tank farm could be constructed, and allow construction of a two-truck loading/unloading pad that could alternatively be used for container storage. Other changes proposed by this modification include the redesignation of areas currently designated as paint can compactor and waste paint storage areas. These areas are instead to be used for the drum shredder and associated container storage.

Interested citizens are invited to review copies of the permit modification application, draft permit modification decision documents, and related fact sheets at the following location:

Olive-Harvey College Library  
10001 South Woodlawn Ave.  
Chicago, IL 60628

Interested citizens may submit written comments on the permit decision documents during the 45-day comment period. Send all comments to the Public Involvement Coordinator listed at the end of this Notice postmarked by midnight May 21, 2001. In response to public requests or at the discretion of the permitting agencies, a public hearing can be held to clarify one or more issues concerning the draft permit decision. A request for a public hearing must be made in writing and must state the nature of the issue(s) to be raised at the hearing. Written requests should be sent to the Public Involvement Coordinator listed below. Public notice will be issued 45 days before any hearing.

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The Illinois EPA is authorized to administer significant portions of the RCRA/HSWA program in Illinois. U. S. EPA administers certain portions of the program governing organic air emissions. HSWA (amendments to RCRA) includes requirements for facilities seeking a permit to perform corrective actions for any past releases of hazardous constituents. The Agencies welcome information from the public that describes any such releases.

In addition to the repository location, the permit application, the state and federal EPA's draft permit decisions, and all data and related information submitted by the applicant to the Illinois EPA as part of the Administrative Record, are now available for public inspection by appointment only Monday through Friday between 9:00 a.m. and 5:00 p.m. Please telephone the Public Involvement Coordinator listed below for an appointment to view the documents at the Illinois EPA's Springfield Headquarters.

Mara McGinnis, Public Participation Coordinator  
Illinois Environmental Protection Agency  
Office of Community Relations #5  
1021 North Grand Avenue East  
Springfield, Illinois 62794-9276  
217/524-3288 (TDD 217/782-9143)

new name.

The name change didn't go over well at Threshold Music, 7901 W. 159th St., Tinley Park.

Store employee Phil Arredia, called the new name "cartoonish" and expects concertgoers to still

"Oh, goodness! Do they make weed whackers?"

Sabin, Metro's head of publicity and design, said corporations sponsor events at his club, but there is no plan to rename it.

"We're one of the last stalwarts

eyes of the public, O'Curry said.

While 3Com Corp. bought the rights to rename San Francisco's Candlestick Park — home of the Giants and 49ers — fans of those teams didn't embrace the new name.

1.15

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Annual fee of \$100 will be due annually after the expiration of month 12 (12) months from the date of the agreement. The Annual Fee shall be waived for each year that is a day 6 for the immediately preceding 12 months, the average outstanding balance on the credit line account during such 12 months is 20% or more of the Line of Credit. Lines of Credit are limited to unsecured, 1-4 family principal residences and are subject to our underwriting standards. Property insurance required. Local insurance may be required. Prepayment fee equal to 1% of highest outstanding loan balance and sales tax upon the agreement at \$350, whichever is greater, will apply if Line of Credit Agreement is cancelled within one year.

Before the six-month introductory 4.99% introductory APR, the 4.99% introductory APR is available for the first six months after activation. After six-month introductory period, fully indexed APR can change monthly based on Prime plus a 1.75% margin, currently 9.75%. Annual fee of \$115 will be due annually after the expiration of month 12 (12) months from the date of the agreement. The Annual Fee shall be waived for each year that is a day 6 for the immediately preceding 12 months, the average outstanding balance on the credit line account during such 12 months is 40% or more of the Line of Credit.

Maximum APR on bank products is 19.99%. Monthly payments of interest only will result in balloon payment at maturity. Offers are good on new Line of Credit relationships only and are subject to change without notice. (capped) is for sales regarding distribution of interest APR as of April 1, 2001.

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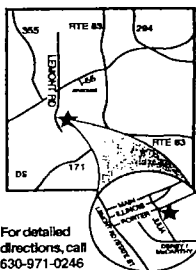
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Saturday, April 7 10 a.m. - 5 p.m.  
Sunday, April 8 10 a.m. - 5 p.m.

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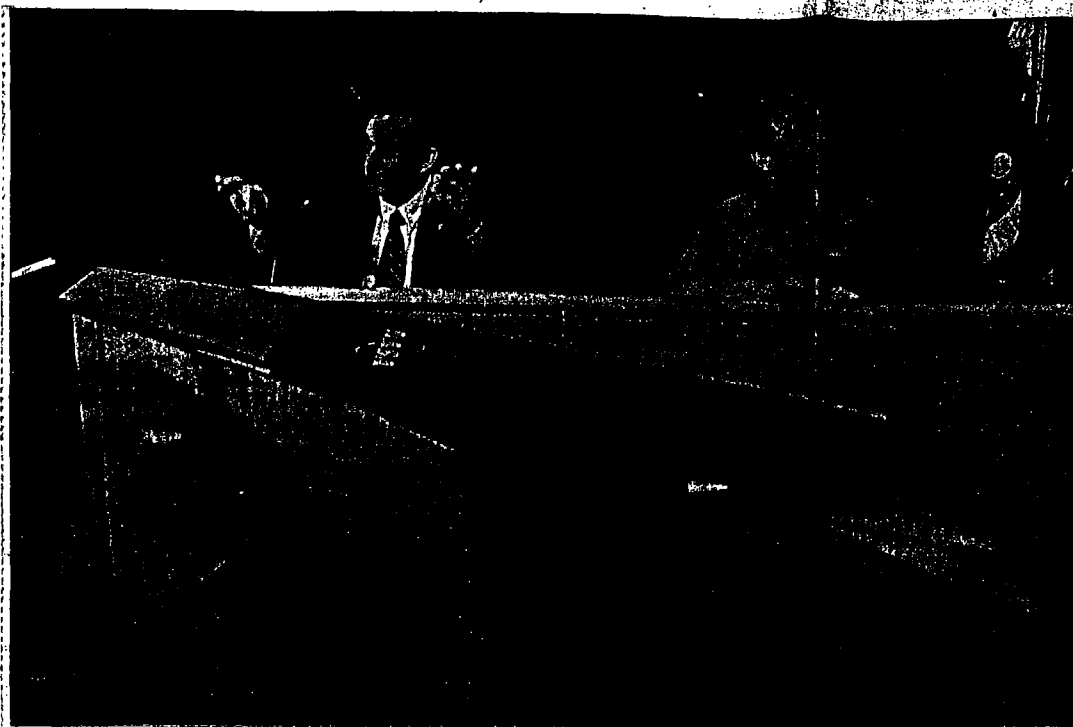
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Project manager Vince Rausch (left) and flight test manager Joel Sitz talk with reporters Wednesday behind a model of NASA's X-34A experimental aircraft. The plane, designed to fly at up to 10 times the speed of sound, will make its maiden flight in mid-May.

## NASA unveils prototype hypersonic plane

X-34A designed to fly at speeds approaching Mach 10

Andrew Bridges  
The Associated Press

EDWARDS AIR FORCE BASE, Calif. — NASA on Wednesday unveiled a futuristic aircraft designed to accelerate through the atmosphere at speeds up to 7,200 mph to become the world's fastest plane. The National Aeronautics and Space Administration's first unpowered X-43A will make its maiden flight in mid-May, flying under its own power for just 10 seconds and about 17 miles before crashing into the Pacific

after the initial test at six-month intervals. If successful, the 12-foot-long, surfboard-shaped planes will smash the speed record of Mach 6.7, set by an X-15 in October 1967.

Unlike the rocket-powered X-15, the X-43A has an air-breathing engine: it carries hydrogen for fuel, but must scoop oxygen out of the atmosphere to combust it. Conventional rockets carry both the hydrogen and oxidant.

The \$185 million project is purely experimental. Engineers will collect flight data needed to build future planes perhaps 200

times faster than the X-15. The aircraft, heat generated by friction with the atmosphere and the difficulty of turning a plane at such high speeds.

None of the X-43As will be recovered from the ocean, officials said.

Currently, the fastest air-breathing aircraft is the SR-71 "Blackbird," which cruises slightly faster than Mach 3. The X-43A would be the first air-breathing plane to go hypersonic or faster than Mach 5.

The government has pursued the idea of routine hypersonic flight for four decades, including

make it work," said Howard McCurdy, a professor of public affairs at American University.

Backers of the technology see air-breathing hypersonic propulsion as advantageous for improving access to space. Eliminating the need to carry oxygen could cut the weight of a space-faring version of such a plane in half.

The X-43A requires a big boost before its specialized supersonic-combustion ramjet, or "scramjet," engine can work. A scramjet engine only works when air flows through it at supersonic speeds.

To make sure the air goes through the engine fast enough during test flights, a B-52 will

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Marn McGowan, Public Participation Coordinator  
Illinois Environmental Protection Agency  
Office of Community Relations, #5  
1021 North Grand Avenue East  
Springfield, Illinois 62794-0279  
217/624-3268 (TDD 217/788-9143)

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**FACT SHEET**

**MODIFICATION TO THE FEDERAL RCRA PERMIT  
ISSUED TO CLEAN HARBORS SERVICE, CHICAGO, ILLINOIS  
EFFECTIVE NOVEMBER 4, 1993  
ILD 000 608 471**

In accordance with Title 40 Code of Federal Regulations (40 CFR) § 270.41 Modification or revocation and reissuance of permits, the RCRA permit modification is hereby issued to Clean Harbors Service, Inc. located at 11800 South Stony Island Avenue, Chicago, Illinois.

This modified permit, together with the Illinois Environmental Protection Agency's permit comprises the Resource Conservation and Recovery Act (RCRA) permit which has been prepared based on the information provided by Clean Harbors Service, Inc. on its proposed system changes and improvements to control organic air emissions from its hazardous waste storage and process equipment. The proposed equipment modification submitted to U.S. EPA is referenced in this permit modification and is an integral and enforceable part of this modified permit.

The modified Federal RCRA permit is organized as follows:

- I. Standard Conditions
- II. Land Disposal Restrictions
- III. Air Emission Standards
- IV. Other Federal RCRA Requirements
- V. Schedule of Compliance

**Summary of Permit Modification**

1. The Facility Name has been changed from Clean Harbors of Chicago, Incorporated to Clean Harbors Service, Incorporated.
2. The signature of Norman R. Niedergang, Associate Division Director, Office of RCRA, Waste Management Division has been changed to Robert Springer, Director, Waste, Pesticides and Toxics Division, due to reorganization of Region 5, U.S. EPA.
3. Section 1. Mail code and section name has been updated.
4. Section II. Land Disposal Restrictions - a paragraph has been added.
5. Section III. Toxicity Characteristics has been deleted, because the State of Illinois has been authorized for administering the rule.

6. Section IV Air Emission Standards is deleted and replaced with a new Section III. Air Emission Standards as follows:
  - III.A Waste Determination
  - III.B General Standards for Tanks and Containers
  - III.C Roll-Off Container Storage Area
  - III.D Ventilation and Metal Cleaning Supplemental Environmental Project
  - III.E Drum Elevator and Shredder
  - III.F Hydrapulper and Vibratory Screen
  - III.G Closed Vent System and Control Devices (Carbon Absorption System)
  - III.H Removal and Disposal of the Discarded Equipment and Appurtenances
  - III.I Design Changes to the Project
  - III.J Recordkeeping and Reporting
  - III.K Notification of Regulated Activity
  - III.L Duty to Comply with Future Requirements
7. A new Section IV - Other Federal RCRA Requirements is added.
8. Page numbering has been changed due to additions and deletions of permit conditions. The total number of pages has increased from 10 to 14.

DW-8J:BLOUGH;jb:02/08/01:886-2967:J.BLOUGH DISK

WASTE MANAGEMENT BRANCH			
SECRETARY	SECRETARY	SECRETARY	SECRETARY
			3/27/01
TYPIST/ AUTHOR	TECH. SUPP/ PERMITS SECTION CHIEF	POL. PREV. & SPEC. INTIV SEC. CHIEF	WMB BRANCH CHIEF
JB	HPC 3/29/01		KEB 3/29/01

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The Southtown Economist  
Attn: News Desk  
5959 S. Harlem Avenue  
Chicago, Illinois 60638

Chicago Tribune  
Attn: News Desk  
435 North Michigan Avenue  
Chicago, Illinois 60611

Chicago Sun-Times  
Attn: News Desk  
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Attn: News Desk  
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Tinley Park, Illinois 60477

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13256 So. Baltimore  
Chicago, Illinois 60633

City News Bureau  
Attn: News Desk  
35 E. Wacker Dr., Suite 792  
Chicago, Illinois 60601

Hammond Times  
601 45th Ave.  
Munster, IN 46321

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Attn: Public Service Director  
6405 Olcott Avenue  
Hammond, Indiana 46320

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Attn: Public Service Director  
190 N. State  
Chicago, Illinois 60601

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Attn: Public Service Director  
848 E. Grand Avenue  
Chicago, Illinois 60611

WMAQ/AM  
Attn: Public Service Director  
455 North City Front Plaza  
6th Floor  
Chicago, Illinois 60611

Harriet Croke, DW-8J  
U.S. EPA - Region V  
RCRA Permitting Branch/IL  
77 West Jackson Boulevard  
Chicago, Illinois 60604

The Honorable Richard Derbin  
United States Senator  
525 S. 8th Street  
Springfield, Illinois 62703

The Honorable Peter Fitzgerald  
United States Senator  
230 S. Dearborn, Suite 3900  
Chicago, Illinois 60604

The Honorable Jessie Jackson, Jr.  
United States Representative, Dist. 2  
17926 S. Halsted Street  
Homewood, Illinois 60430

The Honorable Bobby L. Rush  
United States Representative, Dist. 1  
655 E. 79th Street  
Chicago, Illinois 60619

The Honorable Emil Jones  
Illinois State Senator, Dist. 14  
507 West 111th Street  
Chicago, Illinois 60628

The Honorable Donne E. Trotter  
Illinois State Senator, Dist. 16  
2954 E. 92nd Street  
Chicago, Illinois 60626



The Honorable William Shaw  
Illinois State Senator, Dist. 15  
3300 W. 159th Street  
Markham, IL 60426-4008

The Honorable Willis Harris  
Illinois State Representative, Dist. 29  
450 Prairie, Suite 160  
Calumet City, IL 60409

The Honorable Constance A. Howard  
Illinois State Representative, Dist. 32  
8949 S. Stony Island Avenue  
Chicago, Illinois 60617

The Honorable Thomas Dart  
Illinois State Representative, Dist. 28  
3205 W. 111th Street  
Chicago, Illinois 60655

The Honorable Todd Stroger  
Illinois State Representative, Dist 31  
8539 South Cottage Grove  
Chicago, Illinois 60619

The Honorable Monique D. Davis  
Illinois State Representative, Dist. 27  
1234 W. 95th Street  
Chicago, Illinois 60643

Chicago District Corps of Engineers  
Regulatory Functions Branch  
Attn: Tom Slowinski, Chief  
219 S. Dearborn  
Chicago, Illinois 60604-1797

State's Attorney Richard Devine  
County Building, Room 402  
118 N. Clark Street  
Chicago, Illinois 60602

Cliff Gould, Regional Manager  
Bureau of Land  
IEPA  
1701 First Avenue  
Maywood, Illinois 60153

Derrick Kimbrough, P-19J  
USEPA - Region V  
Office of Public Affairs  
77 West Jackson Blvd.  
Chicago, IL 60604

Illinois Office of Attorney General  
Environmental Law Division  
500 South 2nd Street  
Springfield, Illinois 62706

Tim Warren  
DENR  
325 West Adams Street  
Springfield, Illinois 62704

Ill. Historic Preservation Agency  
Preservation Services  
1 Old State Capitol Plaza  
Springfield, Illinois 62701-1512

Illinois Dept. of Natural Resources  
Resource Management  
600 North Grand Avenue West  
Springfield, Illinois 62706

Deanna Glosser  
Illinois Dept. of Natural Resources  
Division of Natural Heritage  
524 South Second Street  
Springfield, Illinois 62701-1787

Illinois Dept. of Transportation  
Division of Water Resources  
DOT Administration Bldg. Room 339  
Springfield, Illinois 62794

DENR  
325 W. Adams St.  
Springfield, Illinois 62704

Illinois Department of Commerce  
and Community Affairs  
620 East Adams Street  
Springfield, Illinois 62701

Illinois State Chamber of Commerce  
215 East Adams Street  
Springfield, Illinois 62701

Juan Thomas  
Illinois Department of Public  
Health  
4212 West St. Charles Road  
Bellwood, Illinois 60104

Dr. Gary Miller, Acting Director  
IL Waste Management & Research  
Center  
1 East Hazelwood Drive  
Champaign, Illinois 61820

David Thomas, Director  
Ill. State Natural History Survey  
615 East Peabody  
Champaign, Illinois 61820

William Shilts, Director  
Illinois State Geological Survey  
615 East Peabody  
Champaign, Illinois 61820

Director  
Illinois State Water Survey  
2204 Griffith Drive  
Champaign, Illinois 61820

Ms. Jerry Grubman  
Illinois ESDA  
1 Heritage Plaza, Suite 8  
7501 Lemont Road  
Woodridge, Illinois 60602

John H. Stroger, President  
Cook County Board  
118 N. Clark, Room 567  
Chicago, Illinois 60602

David D. Orr, Clerk  
Cook County Board  
118 N. Clark, Room 434  
Chicago, Illinois 60602

Robert D. Roache  
Cook County Env'l. Control  
Maybrook Civic Center, Room 202  
1500 Maybrook Dr.  
Maywood, Illinois 60153

Michael F. Sheahan  
Cook County Sheriff - ESDA  
1401 S. Maybrook  
Maywood, Illinois 60153

Mayor Richard Daley  
Chicago City Hall  
121 N. LaSalle  
Chicago, Illinois 60602

James J. Laski, Clerk  
Chicago City Hall  
121 N. LaSalle  
Chicago, Illinois 60602

Tim Degnan, Director  
Intergovernmental Affairs  
City Hall, Room 603  
121 N. LaSalle  
Chicago, Illinois 60602

John Pope, Alderman  
10th Ward  
3522 E. 106th Street  
Chicago, Illinois 60617

Alderman Anthony Beale  
9th Ward  
11004 S. Michigan  
Chicago, Illinois 60628

Committee on Energy, Environmental  
Protection & Public Utilities  
121 North LaSalle  
Chicago, Illinois 60602

City of Chicago  
Streets & Sanitation  
Attn: Joe Brett  
2451 S. Ashland  
Chicago, Illinois 60608

Dr. Karen Scott  
Cook County Public Health Dept.  
1500 S. Maybrook  
Maywood, Illinois 60153

Ms. Chris Flannery  
Cook County Public Health Dept.  
1500 S. Maybrook  
Maywood, Illinois 60153

Calumet Water Reclamation Plant  
400 East 130th Street  
Chicago, Illinois 60628

Cecil Lue-Hing, Director  
Research & Development  
Metro Water Reclamation District  
100 East Erie  
Chicago, Illinois 60611

Chicago Dept. of Health  
Attn: Roger Cieslik  
Bureau of Health Regulations  
50 W. Washington, Room CL88  
Chicago, Illinois 60602

City of Chicago Fire Dept.  
Attn: John M. Eversole  
Hazardous Incidents Team  
55 W. Illinois St.  
Chicago, Illinois 60610

Mayor Jerry Genova  
Calumet City, City Hall  
204 Pulaski Road, P.O.Box 1519  
Calumet City, Illinois 60409

Mayor Eldreth A. Rundlett  
14450 Mainstee Ave.  
Burnham, Illinois 60633

Nancy Dobrowski, Village Clerk  
14450 Manistee Ave.  
Burnham, Illinois 60633

Mayor William Shaw  
14014 Park Avenue  
Dolton, Illinois 60419

Judy Evans, City Clerk  
14014 Park Avenue  
Dolton, Illinois 60419

Mayor Joseph C. Szabo  
325 West 142nd St.  
Riverdale, Illinois 60627

Joyce E. Forbes  
Riverdale Village Clerk  
325 West 142nd St.  
Riverdale, Illinois 60627

Michelle Qualkinbush  
City Clerk, City Hall  
204 Pulaski Rd., P.O. Box 1519  
Calumet City, Illinois 60409

Geraldine R. Gavin  
Calumet Park Clerk  
12409 South Throop Street  
Calumet Park, Illinois 60643

Buster B. Porch  
Calumet Park Mayor  
12409 South Throop Street  
Calumet Park, Illinois 60643

Anthony G. Ianello  
Executive Director  
Illinois International Port District  
3600 E. 95th Street  
95th and the Lakefront  
Chicago, Illinois 60617

Waste Mangement, Inc.  
P.O. Box 1309  
Calumet City, Illinois 60409

Tom Tomaszewski  
CID Processing Center  
Post Office Box 1296  
Calumet City, Illinois 60409

Developing Communities Project  
Loretta Augustine  
9441 S. Ada St.  
Chicago, Illinois 60620

Hazel Johnson  
People for Community Recovery  
13116 South Ellis Avenue  
Chicago, Illinois 60627

Virginia Cap  
H.O.P.E.  
13031 S. Carondolet  
Chicago, Illinois 60633

UNO  
3066 East 92nd Street  
Chicago, Illinois 60617

Barack Obama  
Calumet Area Religious Conference  
351 East 113 Street  
Chicago, Illinois

Chief Francis W. Moriarty  
City of Chicago Fire Department  
Fire Academy, Room 316  
558 West DeKoven Street  
Chicago, IL 60607

Marina Brynes  
Southeast Environmental Taskforce  
9716 So. Van Vliissingen Road  
Chicago, Illinois 60617

Joan Van Haren  
15543 Drexel Avenue  
Dolton, Illinois 60419-2749

Foster Milhouse  
South Deering Association  
10404 S. Oglesby  
Chicago, Illinois 60617

Gordon Mayer  
2448 N. Spaulding Ave. #1  
Chicago, Illinois 60647-2522

Robert Sheahan  
18444 Ada Street  
Lansing, Illinois 60438

Ignacio Correa-Ortiz  
Center for Neighborhood Technology  
2125 W. North Avenue  
Chicago, Illinois 60647

Daniel Lee  
161 East 121st Place  
Chicago, Illinois 60628

Hazel Johnson  
13141 S. Langley  
Chicago, Illinois 60627

Rosemary Diorio  
10912 S. Hoxie  
Chicago, Illinois 60617

Jill Viehweg  
Citizens for a Better Environment  
407 S. Dearborn, Suite 1775  
Chicago, IL 60605

D'Andrea Adams  
1745 E. 74th Street  
Chicago, Illinois 60649

Tom & Cindy McMahon  
639 E. 111th Street  
Chicago, Illinois 60628

Shirley Petrisha  
Concerned Citizens of Burnham  
14236 Greenbay Avenue  
Burnham, Illinois 60633

Irma Dixon  
ACORN  
1143 E. 131st Street  
Chicago, Illinois 60627

Maggy Davis  
ACORN  
1143 E. 131ST ST.  
Chicago, Illinois 60627

Hegewisch Community Committee  
13248 S. Baltimore Avenue  
Chicago, Illinois 60633

Sam Falbo  
Fair Elms Civic Organization  
10942 Avenue F  
Chicago, Illinois 60617

John Young  
Avalon Trails Improvement Assn.  
2710 East 127th Street  
Chicago, Illinois 60633



Ed Borowski  
Avalon Trails Improvement Assn.  
12917 Carondolet Ave.  
Chicago, Illinois 60633

Chuck Gregorsen, President  
Pullman Civic Organization  
614 East 113th Street  
Chicago, Illinois 60628

Charlie Cray  
Greenpeace USA  
417 South Dearborn St.  
Suite 420  
Chicago, Illinois 60605-1120

Lynn Cunningham  
South East Chicago Development Comm.  
9204 Commercial, Suite 212  
Chicago, Illinois 60617

Lenard Suajo  
East Side Chamber of Commerce  
3658 East 106 Street  
Chicago, Illinois 60617

Jim Amendola  
Hegewisch Chamber of Commerce  
13547 South Brandon Avenue  
Chicago, Illinois 60633

Mike Pavich  
South Chicago Chamber of Commerce  
9204 Commercial Avenue  
Chicago, Illinois 60617

Calumet Area Industrial Commission  
Attn: Peter Foote  
1000 East 111th Street  
Chicago, Illinois 60628

Harvey Sheldon  
Chicago Assn. of Commerce & Industry  
3500 Three First National Plaza  
Chicago, Illinois 60602

Ms. Eileen Johnston  
Working Together to Manage Waste  
505 Maple Avenue  
Wilmette, Illinois 60091

Edward R. Allen  
8135 River Drive  
Morton Grove, Illinois 60093

Della Daniels-Fuqua  
Library, Olive-Harvey College  
10001 South Woodlawn Avenue  
Chicago, Illinois 60628

League of Women Voters of Illinois  
332 South Michigan Avenue  
Chicago, Illinois 60604

MONTI Communications, Inc.  
Rural Route 16, Box 532  
Bloomington, Illinois 61704

Linda Kissinger  
9716 Stoney Hill Lane  
Charlotte, NC 28226

Envirite Corporation  
Attn: Operations Manager  
16435 South Center Avenue  
Harvey, Illinois 60426

Mary Ross  
506 Madison Avenue  
Garden Apartment  
Oak Park, Illinois 60302

Cheryl Frank  
Lee News Service  
Statehouse Press Room  
Springfield, Illinois 62706

George W. Nicholas  
Nicholas & Assoc., Inc.  
32 Lynn Drive  
Hawthorn Woods, IL 60047

Sulcon, Inc.  
Attn: Dan Crawmer  
Post Office Box 437  
Champaign, Illinois 61824-0437

American Ecology Services, Inc.  
Attn: Richard M. Miller  
127 East 59th Street  
New York, NY 10022

Sid Marder  
215 East Adams Street  
Springfield, Illinois 62701

Barbara Mullarkey  
Waste Ideas Network  
Post Office Box 946  
Oak Park, Illinois 60303

Edwin Eisendrath  
Committee on Energy  
City Hall  
121 North LaSalle  
Chicago, Illinois 60602

Michael Behm  
2300 Clarendon, Suite 407  
Arlington, Virginia 22201

Dorothy Gunn  
Clerk, Pollution Control Bd.  
100 W. Randolph Street  
Ste 11-600  
Chicago, IL 60601

Maria Michalski  
C-CEP  
14406 Chicago Road  
Downer, IL 60419

William J. Geary  
Clean Harbors  
1501 Washington Street  
Braintree, MA 02184

A.C. Granfield  
444 Belvedere Court  
Canton, MI 48188

James R. Laubsted  
424 Prairie Knoll Dr.  
Naperville, IL 60565

Nancy A. Kookich Feinberg  
9516 S. Euclid  
Chicago, IL 60617

Maxine & Fran Rusdorf  
S.E. Sportsmens Club  
11312 Avenue J  
Chicago, IL 60617

Charles & Vicki Jurka  
RR 3, Box265A Homberg Rd.  
Golconda, IL 62938-9457

Casmit S. & Esther Pala  
11608 S. Torrence  
Chicago, IL 60617

Bowden Quinn  
Chicago Legal Clinic  
2938 E. 91st Street  
Chicago, IL 60617

Rev. Ollie Carter  
15400 University  
Dolton, IL 60419

Beatrice L. Feltan  
9522 S. Euclid Avenue  
Chicago, IL 60617

Scott Saef  
333 E. Ontario 902B  
Chicago, IL 60611

Charles Logullo  
32nd District  
Fair Elm Civic League  
11129 Avenue C  
Chicago, IL 60617

Jim Doyle  
1105 Fagan Road  
Batavia, IL 60510

Mary Sumner  
32nd District Environmental  
Task Force  
9809 Avenue H  
Chicago, IL 60617

John Pastirik  
Southeast Environmental  
Task Force  
10716 Avenue F  
Chicago, IL 60617

Deb Watson  
13122 Avenue O  
Chicago, IL 60633

James E. Landing  
Lake Calumet Study Committee  
2135 W. Cortez  
Chicago, IL 60622

Marian Byrnes  
Southeast Environmental  
Task Force  
10700 S. Ewing  
Chicago, IL 60617

David Dillion  
Calumet Areas Ind. Commission  
111 West Washington, Ste. 719  
Chicago, IL 60602

Theresa L. Lopez  
12856 S. Marquette Avenue  
Chicago, IL 60637

Mara McGinnis, #33  
Illinois Environmental Protection Agency  
1021 North Grand Avenue East  
P.O. Box 19276  
Springfield, Illinois 62794-9276

US Army Corps of Engineers  
111 N. Canal Street  
Chicago, Illinois 60606-7205

Illinois Department of Natural Resources  
Office of Water Resources  
3215 Executive Park Drive  
Springfield, Illinois 62794-9484

Illinois Department of Agriculture  
Division of Natural Resources  
State Fairgrounds  
P.O. Box 19281  
Springfield, Illinois 62794

Jack Darin  
Sierra Club  
1 N. LaSalle Street  
Suite 4242  
Chicago, Illinois 60607

Lionel Trepanier  
Chicago Greens  
716 Maxwell Market Street  
Chicago, Illinois 60607

Business and Professional  
People for the Public Interest  
17 E. Monroe, Suite 212  
Chicago, IL 60603

Clem Balanoff  
11128 S. Avenue D  
Chicago, IL 60617

Richard Pooler  
11331 S. Langley  
Chicago, IL 60628

Carole A. Pooler  
11310 S. Champlain  
Chicago, IL 60628

Cesar & Mary Gonzales  
10742 S. Hoxie  
Chicago, IL 60617

Rodrigo R. Arana  
10734 S. Hoxie  
Chicago, IL 60617

Charles Pedretti  
10718 S. Torrence  
Chicago, IL 60617

Theresa Marzullo and  
Theodore Adams, Jr.  
10445 S. Bensley  
Chicago, IL 60617

Frank Machura, Sr.  
12813 S. Exchange  
Chicago, IL 60633

The Cooper Family  
12933 S. Muskegon  
Chicago, IL 60633

Larry Tello  
11017 S. Green Bay  
Chicago, IL 60617

The Taylor Family  
10234 S. Van Vlissingen Rd.  
Chicago, IL 60633

The Rev. Robert Klonowski  
13101 S. Manistee  
Chicago, IL 60633

The Gagen Family  
10752 S. Mackinaw  
Chicago, IL 60617

Citizens for a Better Environment  
409 S. Dearborn Suite 1775  
Chicago, IL 60605

Howard E. Stewart  
Calumet Area Industrial Commission  
Pullman Bank  
111th Street  
Chicago, IL 60628

Mike Sapienza  
Calumet Area Industrial Commission  
Heritage Pullman Bank Building  
Chicago, IL 60619

Jeff Vornhagen  
101 Stanley  
Valparaiso, IN 46383

Bill Karpas  
Land & Lakes/LRS  
123 N. Northwest Highway  
Park Ridge, IL 60068

James Cambell  
11357 S. Michigan  
Chicago, IL 60628

Maricela Arce  
13465 S. Avenue K  
Chicago, IL 60633-1015

Shirley T. Dorsey  
USEPA - Region V  
77 West Jackson Blvd.  
Chicago, IL 60609

Emil R. Jordan, Jr.  
Southeast Environmental Task Force  
2189 E. 98th Place  
Chicago, IL 60617

Bob LaBoube  
Chemical Waste Management  
3001 Butterfield Road  
Oak Brook, IL 60521

Martin O'Hearn  
10047 S. Western  
Chicago, IL 60043



Jonathan Adenuga, HRE-8J  
Corrective Action Section  
USEPA - Region V  
77 West Jackson Blvd.  
Chicago, IL 60604

Howard Chinn  
Environmental Control  
Illinois Attorney General's Office  
100 West Randolph, 12th Floor  
Chicago, IL 60601

Sean O'Leary  
Chicago Department of Environment  
30 North LaSalle Street  
Chicago, IL 60602-2575

Bill Bowen  
Chief, Response Section II  
USEPA - Region V  
77 West Jackson Blvd.  
Chicago, IL 60604

Chief Ed Gavin  
City of Chicago Fire Department  
Sixth District  
10458 South Hoxie Avenue  
Chicago, IL 60617

Kimberly Harms  
Chicago Department of Environment  
30 North LaSalle Street  
Chicago, IL 60602-2575

Dave Ochal  
Chicago Dept. of Streets & Sanitation  
City Hall, Room 704  
121 North LaSalle Street  
Chicago, IL 60602

Kevin Reinhard  
Heritage Environmental Services, Inc.  
15330 Canal Bank Road  
Lemont, IL 60439

Ron Rogoswki  
IEPA - Maywood Regional Office  
1701 First Avenue  
Maywood, IL 60153

WLS-TV  
Attn: Public Service Director  
190 N. State  
Chicago, Illinois 60601

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6th Floor  
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Chicago, Illinois 60628

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Illinois State Senator, Dist. 16  
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Chicago, Illinois 60426

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Chicago, Illinois 60633

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6405 Olcott Avenue  
Hammond, Indiana 46320

Illinois Office of Attorney General  
Environmental Law Division  
500 South 2nd Street  
Springfield, Illinois 62706

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DENR  
325 West Adams Street  
Springfield, Illinois 62704

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Springfield, Illinois 62701-1512

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Springfield, Illinois 62706

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Illinois Dept. of Natural Resources  
Division of Natural Heritage  
524 South Second Street  
Springfield, Illinois 62701-1787

Illinois Dept. of Transportation  
Division of Water Resources  
DOT Administration Bldg. Room 339  
Springfield, Illinois 62794

DENR  
325 W. Adams St.  
Springfield, Illinois 62704

Illinois Department of Commerce  
and Community Affairs  
620 East Adams Street  
Springfield, Illinois 62701

Illinois State Chamber of Commerce  
215 East Adams Street  
Springfield, Illinois 62701

Juan Thomas  
Illinois Department of Public  
Health  
4212 West St. Charles Road  
Bellwood, Illinois 60104

The Honorable William Shaw  
Illinois State Senator, Dist. 15  
3300 W. 159th Street  
Markham, IL 60426-4008

The Honorable Willis Harris  
Illinois State Representative, Dist. 29  
450 Prairie, Suite 160  
Calumet City, IL 60409

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Illinois State Representative, Dist. 32  
8949 S. Stony Island Avenue  
Chicago, Illinois 60617

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Illinois State Representative, Dist. 28  
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Chicago, Illinois 60655

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Illinois State Representative, Dist 31  
8539 South Cottage Grove  
Chicago, Illinois 60619

The Honorable Monique D. Davis  
Illinois State Representative, Dist. 27  
1234 W. 95th Street  
Chicago, Illinois 60643

Chicago District Corps of Engineers  
Regulatory Functions Branch  
Attn: Tom Slowinski, Chief  
219 S. Dearborn  
Chicago, Illinois 60604-1797

State's Attorney Richard Devine  
County Building, Room 402  
118 N. Clark Street  
Chicago, Illinois 60602

Cliff Gould, Regional Manager  
Bureau of Land  
IEPA  
1701 First Avenue  
Maywood, Illinois 60153

Derrick Kimbrough, P-19J  
USEPA - Region V  
Office of Public Affairs  
77 West Jackson Blvd.  
Chicago, IL 60604

Dr. Gary Miller, Acting Director  
IL Waste Management & Research  
Center  
1 East Hazelwood Drive  
Champaign, Illinois 61820

David Thomas, Director  
Ill. State Natural History Survey  
615 East Peabody  
Champaign, Illinois 61820

William Shilts, Director  
Illinois State Geological Survey  
615 East Peabody  
Champaign, Illinois 61820

Director  
Illinois State Water Survey  
2204 Griffith Drive  
Champaign, Illinois 61820

Ms. Jerry Grubman  
Illinois ESDA  
1 Heritage Plaza, Suite 8  
7501 Lemont Road  
Woodridge, Illinois 60602

John H. Stroger, President  
Cook County Board  
118 N. Clark, Room 567  
Chicago, Illinois 60602

David D. Orr, Clerk  
Cook County Board  
118 N. Clark, Room 434  
Chicago, Illinois 60602

Robert D. Roache  
Cook County Env'l. Control  
Maybrook Civic Center, Room 202  
1500 Maybrook Dr.  
Maywood, Illinois 60153

Michael F. Sheahan  
Cook County Sheriff - ESDA  
1401 S. Maybrook  
Maywood, Illinois 60153

Mayor Richard Daley  
Chicago City Hall  
121 N. LaSalle  
Chicago, Illinois 60602

James J. Laski, Clerk  
Chicago City Hall  
121 N. LaSalle  
Chicago, Illinois 60602

Tim Degnan, Director  
Intergovernmental Affairs  
City Hall, Room 603  
121 N. LaSalle  
Chicago, Illinois 60602

John Pope, Alderman  
10th Ward  
3522 E. 106th Street  
Chicago, Illinois 60617

Alderman Anthony Beale  
9th Ward  
11004 S. Michigan  
Chicago, Illinois 60628

Committee on Energy, Environmental  
Protection & Public Utilities  
121 North LaSalle  
Chicago, Illinois 60602

City of Chicago  
Streets & Sanitation  
Attn: Joe Brett  
2451 S. Ashland  
Chicago, Illinois 60608

Dr. Karen Scott  
Cook County Public Health Dept.  
1500 S. Maybrook  
Maywood, Illinois 60153

Ms. Chris Flannery  
Cook County Public Health Dept.  
1500 S. Maybrook  
Maywood, Illinois 60153

Calumet Water Reclamation Plant  
400 East 130th Street  
Chicago, Illinois 60628

Cecil Lue-Hing, Director  
Research & Development  
Metro Water Reclamation District  
100 East Erie  
Chicago, Illinois 60611

Buster B. Porch  
Calumet Park Mayor  
12409 South Throop Street  
Calumet Park, Illinois 60643

Anthony G. Ianello  
Executive Director  
Illinois International Port District  
3600 E. 95th Street  
95th and the Lakefront  
Chicago, Illinois 60617

Waste Mangement, Inc.  
P.O. Box 1309  
Calumet City, Illinois 60409

Tom Tomaszewski  
CID Processing Center  
Post Office Box 1296  
Calumet City, Illinois 60409

Developing Communities Project  
Loretta Augustine  
9441 S. Ada St.  
Chicago, Illinois 60620

Hazel Johnson  
People for Community Recovery  
13116 South Ellis Avenue  
Chicago, Illinois 60627

Virginia Cap  
H.O.P.E.  
13031 S. Carondolet  
Chicago, Illinois 60633

UNO  
3066 East 92nd Street  
Chicago, Illinois 60617

Barack Obama  
Calumet Area Religious Conference  
351 East 113 Street  
Chicago, Illinois

Chief Francis W. Moriarty  
City of Chicago Fire Department  
Fire Academy, Room 316  
558 West DeKoven Street  
Chicago, IL 60607

Chicago Dept. of Health  
Attn: Roger Cieslik  
Bureau of Health Regulations  
50 W. Washington, Room CL88  
Chicago, Illinois 60602

City of Chicago Fire Dept.  
Attn: John M. Eversole  
Hazardous Incidents Team  
55 W. Illinois St.  
Chicago, Illinois 60610

Mayor Jerry Genova  
Calumet City, City Hall  
204 Pulaski Road, P.O.Box 1519  
Calumet City, Illinois 60409

Mayor Eldreth A. Rundlett  
14450 Mainstee Ave.  
Burnham, Illinois 60633

Nancy Dobrowski, Village Clerk  
14450 Manistee Ave.  
Burnham, Illinois 60633

Mayor William Shaw  
14014 Park Avenue  
Dolton, Illinois 60419

Judy Evans, City Clerk  
14014 Park Avenue  
Dolton, Illinois 60419

Mayor Joseph C. Szabo  
325 West 142nd St.  
Riverdale, Illinois 60627

Joyce E. Forbes  
Riverdale Village Clerk  
325 West 142nd St.  
Riverdale, Illinois 60627

Michelle Qualkinbush  
City Clerk, City Hall  
204 Pulaski Rd., P.O. Box 1519  
Calumet City, Illinois 60409

Geraldine R. Gavin  
Calumet Park Clerk  
12409 South Throop Street  
Calumet Park, Illinois 60643

D'Andrea Adams  
1745 E. 74th Street  
Chicago, Illinois 60649

Tom & Cindy McMahon  
639 E. 111th Street  
Chicago, Illinois 60628

Shirley Petrisha  
Concerned Citizens of Burnham  
14236 Greenbay Avenue  
Burnham, Illinois 60633

Irma Dixon  
ACORN  
1143 E. 131st Street  
Chicago, Illinois 60627

Maggy Davis  
ACORN  
1143 E. 131ST ST.  
Chicago, Illinois 60627

Hegewisch Community Committee  
13248 S. Baltimore Avenue  
Chicago, Illinois 60633

Sam Falbo  
Fair Elms Civic Organization  
10942 Avenue F  
Chicago, Illinois 60617

John Young  
Avalon Trails Improvement Assn.  
2710 East 127th Street  
Chicago, Illinois 60633

Marina Brynes  
Southeast Environmental Taskforce  
9716 So. Van Vlissingen Road  
Chicago, Illinois 60617

Joan Van Haren  
15543 Drexel Avenue  
Dolton, Illinois 60419-2749

Foster Milhouse  
South Deering Association  
10404 S. Oglesby  
Chicago, Illinois 60617

Gordon Mayer  
2448 N. Spaulding Ave. #1  
Chicago, Illinois 60647-2522

Robert Sheahan  
18444 Ada Street  
Lansing, Illinois 60438

Ignacio Correa-Ortiz  
Center for Neighborhood Technology  
2125 W. North Avenue  
Chicago, Illinois 60647

Daniel Lee  
161 East 121st Place  
Chicago, Illinois 60628

Hazel Johnson  
13141 S. Langley  
Chicago, Illinois 60627

Rosemary Diorio  
10912 S. Hoxie  
Chicago, Illinois 60617

Jill Viehweg  
Citizens for a Better Environment  
407 S. Dearborn, Suite 1775  
Chicago, IL 60605

Ed Borowski  
Avalon Trails Improvement Assn.  
12917 Carondolet Ave.  
Chicago, Illinois 60633

Chuck Gregorsen, President  
Pullman Civic Organization  
614 East 113th Street  
Chicago, Illinois 60628

Charlie Cray  
Greenpeace USA  
417 South Dearborn St.  
Suite 420  
Chicago, Illinois 60605-1120

Lynn Cunningham  
South East Chicago Development Comm.  
9204 Commercial, Suite 212  
Chicago, Illinois 60617

Lenard Suajo  
East Side Chamber of Commerce  
3658 East 106 Street  
Chicago, Illinois 60617

Jim Amendola  
Hegewisch Chamber of Commerce  
13547 South Brandon Avenue  
Chicago, Illinois 60633

Mike Pavich  
South Chicago Chamber of Commerce  
9204 Commercial Avenue  
Chicago, Illinois 60617

Calumet Area Industrial Commission  
Attn: Peter Foote  
1000 East 111th Street  
Chicago, Illinois 60628

Harvey Sheldon  
Chicago Assn. of Commerce & Industry  
3500 Three First National Plaza  
Chicago, Illinois 60602

Ms. Eileen Johnston  
Working Together to Manage Waste  
505 Maple Avenue  
Wilmette, Illinois 60091

Edward R. Allen  
8135 River Drive  
Morton Grove, Illinois 60093

Della Daniels-Fuqua  
Library, Olive-Harvey College  
10001 South Woodlawn Avenue  
Chicago, Illinois 60628

League of Women Voters of Illinois  
332 South Michigan Avenue  
Chicago, Illinois 60604

MONTI Communications, Inc.  
Rural Route 16, Box 532  
Bloomington, Illinois 61704

Linda Kissinger  
9716 Stoney Hill Lane  
Charlotte, NC 28226

Envirite Corporation  
Attn: Operations Manager  
16435 South Center Avenue  
Harvey, Illinois 60426

Mary Ross  
506 Madison Avenue  
Garden Apartment  
Oak Park, Illinois 60302

Cheryl Frank  
Lee News Service  
Statehouse Press Room  
Springfield, Illinois 62706

William J. Geary  
Clean Harbors  
1501 Washington Street  
Braintree, MA 02184

George W. Nicholas  
Nicholas & Assoc., Inc.  
32 Lynn Drive  
Hawthorn Woods, IL 60047

A.C. Granfield  
444 Belvedere Court  
Canton, MI 48188

Sulcon, Inc.  
Attn: Dan Crawmer  
Post Office Box 437  
Champaign, Illinois 61824-0437

James R. Laubsted  
424 Prairie Knoll Dr.  
Naperville, IL 60565

American Ecology Services, Inc.  
Attn: Richard M. Miller  
127 East 59th Street  
New York, NY 10022

Nancy A. Kookich Feinberg  
9516 S. Euclid  
Chicago, IL 60617

Sid Marder  
215 East Adams Street  
Springfield, Illinois 62701

Maxine & Fran Rusdorf  
S.E. Sportsmens Club  
11312 Avenue J  
Chicago, IL 60617

Barbara Mullarkey  
Waste Ideas Network  
Post Office Box 946  
Oak Park, Illinois 60303

Charles & Vicki Jurka  
RR 3, Box 265A Homberg Rd.  
Golconda, IL 62938-9457

Edwin Eisendrath  
Committee on Energy  
City Hall  
121 North LaSalle  
Chicago, Illinois 60602

Casmit S. & Esther Pala  
11608 S. Torrence  
Chicago, IL 60617

Michael Behm  
2300 Clarendon, Suite 407  
Arlington, Virginia 22201

Bowden Quinn  
Chicago Legal Clinic  
2938 E. 91st Street  
Chicago, IL 60617

Dorothy Gunn  
Clerk, Pollution Control Bd.  
100 W. Randolph Street  
Ste 11-600  
Chicago, IL 60601

Rev. Ollie Carter  
15400 University  
Dolton, IL 60419

Maria Michalski  
C-CEP  
14406 Chicago Road  
Dolton, IL 60419



David Dillion  
Calumet Areas Ind. Commission  
111 West Washington, Ste. 719  
Chicago, IL 60602

Theresa L. Lopez  
12856 S. Marquette Avenue  
Chicago, IL 60637

Mara McGinnis, #33  
Illinois Environmental Protection Agency  
1021 North Grand Avenue East  
P.O. Box 19276  
Springfield, Illinois 62794-9276

US Army Corps of Engineers  
111 N. Canal Street  
Chicago, Illinois 60606-7205

Illinois Department of Natural Resources  
Office of Water Resources  
3215 Executive Park Drive  
Springfield, Illinois 62794-9484

Illinois Department of Agriculture  
Division of Natural Resources  
State Fairgrounds  
P.O. Box 19281  
Springfield, Illinois 62794

Jack Darin  
Sierra Club  
1 N. LaSalle Street  
Suite 4242  
Chicago, Illinois 60607

Lionel Trepanier  
Chicago Greens  
716 Maxwell Market Street  
Chicago, Illinois 60607

Business and Professional  
People for the Public Interest  
17 E. Monroe, Suite 212  
Chicago, IL 60603

Beatrice L. Feltan  
9522 S. Euclid Avenue  
Chicago, IL 60617

Scott Saef  
333 E. Ontario 902B  
Chicago, IL 60611

Charles Logullo  
32nd District  
Fair Elm Civic League  
11129 Avenue C  
Chicago, IL 60617

Jim Doyle  
1105 Fagan Road  
Batavia, IL 60510

Mary Sumner  
32nd District Environmental  
Task Force  
9809 Avenue H  
Chicago, IL 60617

John Pastirik  
Southeast Environmental  
Task Force  
10716 Avenue F  
Chicago, IL 60617

Deb Watson  
13122 Avenue O  
Chicago, IL 60633

James E. Landing  
Lake Calumet Study Comittee  
2135 W. Cortez  
Chicago, IL 60622

Marian Byrnes  
Southeast Environmental  
Task Force  
10100 S. Ewing  
Chicago, IL 60617

Citizens for a Better Environment  
409 S. Dearborn Suite 1775  
Chicago, IL 60605

Howard E. Stewart  
Calumet Area Industrial Commission  
Pullman Bank  
111th Street  
Chicago, IL 60628

Mike Sapienza  
Calumet Area Industrial Commission  
Heritage Pullman Bank Building  
Chicago, IL 60619

Jeff Vornhagen  
101 Stanley  
Valparaiso, IN 46383

Bill Karpas  
Land & Lakes/LRS  
123 N. Northwest Highway  
Park Ridge, IL 60068

James Cambell  
11357 S. Michigan  
Chicago, IL 60628

Maricela Arce  
13465 S. Avenue K  
Chicago, IL 60633-1015

Shirley T. Dorsey  
USEPA - Region V  
77 West Jackson Blvd.  
Chicago, IL 60609

Emil R. Jordan, Jr.  
Southeast Environmental Task Force  
2189 E. 98th Place  
Chicago, IL 60617

Bob LaBoube  
Chemical Waste Management  
3001 Butterfield Road  
Oak Brook, IL 60521

Martin O'Hearn  
10047 S. Western  
Chicago, IL 60043

Clem Balanoff  
11128 S. Avenue D  
Chicago, IL 60617

Richard Pooler  
11331 S. Langley  
Chicago, IL 60628

Carole A. Pooler  
11310 S. Champlain  
Chicago, IL 60628

Cesar & Mary Gonzales  
10742 S. Hoxie  
Chicago, IL 60617

Rodrigo R. Arana  
10734 S. Hoxie  
Chicago, IL 60617

Charles Pedretti  
10718 S. Torrence  
Chicago, IL 60617

Theresa Marzullo and  
Theodore Adams, Jr.  
10445 S. Bensley  
Chicago, IL 60617

Frank Machura, Sr.  
12813 S. Exchange  
Chicago, IL 60633

The Cooper Family  
12933 S. Muskegon  
Chicago, IL 60633

Larry Tello  
11017 S. Green Bay  
Chicago, IL 60617

The Taylor Family  
10234 S. Van Vlissingen Rd.  
Chicago, IL 60633

The Rev. Robert Klonowski  
13101 S. Manistee  
Chicago, IL 60633

The Gagen Family  
10752 S. Mackinaw  
Chicago, IL 60617

Jonathan Adenuga, HRE-8J  
Corrective Action Section  
USEPA - Region V  
77 West Jackson Blvd.  
Chicago, IL 60604

Howard Chinn  
Environmental Control  
Illinois Attorney General's Office  
100 West Randolph, 12th Floor  
Chicago, IL 60601

Sean O'Leary  
Chicago Department of Environment  
30 North LaSalle Street  
Chicago, IL 60602-2575

Bill Bowen  
Chief, Response Section II  
USEPA - Region V  
77 West Jackson Blvd.  
Chicago, IL 60604

Chief Ed Gavin  
City of Chicago Fire Department  
Sixth District  
10458 South Hoxie Avenue  
Chicago, IL 60617

Kimberly Harms  
Chicago Department of Environment  
30 North LaSalle Street  
Chicago, IL 60602-2575

Dave Ochal  
Chicago Dept. of Streets & Sanitation  
City Hall, Room 704  
121 North LaSalle Street  
Chicago, IL 60602

Kevin Reinhard  
Heritage Environmental Services, Inc.  
15330 Canal Bank Road  
Lemont, IL 60439

Ron Rogoswki  
IEPA - Maywood Regional Office  
1701 First Avenue  
Maywood, IL 60153



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590

AUG 27 2001

REPLY TO THE ATTENTION OF:

DW-8J

CERTIFIED MAIL: 7000 0520 0020 5136 8281  
RETURN RECEIPT REQUESTED

Mr. James Laubsted  
Clean Harbors Services, Inc.  
11800 South Stony Island Ave.  
Chicago, Illinois 60617

RE: Modified Federal RCRA Permit  
Clean Harbors Services, Inc.  
ILD 000 608 471

Dear Mr. Laubsted:

Enclosed is a copy of the modified Federal portion of a Resource Conservation and Recovery Act (RCRA) Hazardous Waste permit for the above-referenced facility. On January 31, 2000 Clean Harbors Services, Inc. requested a Class 3 permit modification to incorporate a major equipment modification to its operating system.

The United States Environmental Protection Agency initiated the permit modification in accordance with Title 40 Code of Federal Regulations (40 CFR) § 270.41(a)(1). This modified Federal permit is effective on the date indicated on the signature page of the Federal permit. Eligibility to appeal the Federal permit is discussed further in 40 CFR § 124.19. The original and one copy of the petition must be received by the United States Environmental Protection Agency in Washington, D.C., at the address indicated below within 30 days after service of notice of the final permit decision.

United States Environmental Protection Agency  
Environmental Appeals Board  
Ariel Rios Building  
1200 Pennsylvania Avenue, N.W.  
Washington, D.C. 20460

Submissions can also be made by hand-delivery at the following address:

United States Environmental Protection Agency  
Environmental Appeals Board  
Westory Building  
607 14th Street, NW  
Suite 500  
Washington, D.C. 20005

A copy of the petition should also be sent to:

Waste Management Branch (DW-8J)  
U.S. EPA Region 5  
77 West Jackson Boulevard  
Chicago, Illinois 60604

The procedures for filing an appeal are found in 40 CFR § 124.19. The administrative appeal procedures must be completed prior to any action seeking judicial review.

August 27, 2001

This modified Federal permit is effective \_\_\_\_\_.  
It shall remain valid until November 4, 2003, unless the Federal permit is revoked and reissued, or terminated pursuant to 40 CFR § 270.41, § 270.42 and § 270.43. Failure to comply with any conditions of the Federal permit may result in civil and/or criminal penalties.

Sincerely,



Robert Springer, Director  
Waste, Pesticides and Toxics Division

Enclosures

cc: Mark Schollenberger, IEPA



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590

AUG 27 2001

REPLY TO THE ATTENTION OF: DW-8J

**CERTIFIED MAIL: 7000 0520 0020 5136 8304**  
**RETURN RECEIPT REQUESTED**

Mr. Anthony G. Ianello  
Illinois International Port District.  
3600 East 95<sup>th</sup> Street  
Chicago, Illinois 60617

RE: Modified Federal RCRA Permit  
Clean Harbors Services, Inc.  
ILD 000 608 471

Dear Mr. Ianello:

Enclosed is a copy of the modified Federal portion of a Resource Conservation and Recovery Act (RCRA) Hazardous Waste permit for the above-referenced facility. On January 31, 2000 Clean Harbors Services, Inc. requested a Class 3 permit modification to incorporate a major equipment modification to its operating system.

The United States Environmental Protection Agency initiated the permit modification in accordance with Title 40 Code of Federal Regulations (40 CFR) § 270.41(a)(1). This modified Federal permit is effective on the date indicated on the signature page of the Federal permit. Eligibility to appeal the Federal permit is discussed further in 40 CFR § 124.19. The original and one copy of the petition must be received by the United States Environmental Protection Agency in Washington, D.C., at the address indicated below within 30 days after service of notice of the final permit decision.

United States Environmental Protection Agency  
Environmental Appeals Board  
Ariel Rios Building  
1200 Pennsylvania Avenue, N.W.  
Washington, D.C. 20460

Submissions can also be made by hand-delivery (including Federal Express) at the following address:

United States Environmental Protection Agency  
Environmental Appeals Board  
Westory Building  
607 14th Street, NW  
Suite 500  
Washington, D.C. 20005

Clean harbor  
ILD 000 608 471  
Letter to Facility - Final Modified Permit  
Jim Blough - June 28, 2001  
File: illinois internation-Ltr-MPMT

WASTE MANAGEMENT BRANCH

SECRETARY	SECRETARY	SECRETARY	SECRETARY	SECRETARY	SECRETARY
152/27/01					
TYPIST/ AUTHOR	STP SECTION CHIEF	CA SECTION CHIEF	POL.PREV.&S PEC.INTIV SEC. CHIEF	WMB BRANCH CHIEF	WPTD DIVISION DIRECTOR
Jim Blough				APC 8/20/01	RS 8/27/01

Clean Harbors  
ILD 000 608 471  
Letter to Facility - Final Modified Permit  
Jim Blough - June 28, 2001  
File: Clean Harbors-Ltr-MPMT

WASTE MANAGEMENT BRANCH

SECRETARY	SECRETARY	SECRETARY	SECRETARY	SECRETARY	SECRETARY
TYPIST/ AUTHOR	STP SECTION CHIEF	CA SECTION CHIEF	POL.PREV.&S PEC.INTIV SEC. CHIEF	WMB BRANCH CHIEF	WPTD DIVISION DIRECTOR
Jim Blough <i>JB</i>					



RESPONSE TO COMMENTS  
REGARDING  
THE MODIFICATION TO THE FEDERAL  
RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) PERMIT  
TO BE ISSUED TO ILLINOIS INTERNATIONAL PORT DISTRICT AND  
CLEAN HARBORS SERVICES, INC., ILD 000 608 471  
CHICAGO, ILLINOIS

INTRODUCTION

This response is issued pursuant to Title 40 of the Code of Federal Regulations (40 CFR) Section 124.17, which requires that any changes of draft permit conditions be specified along with the reason for the change; that all significant comments be described and responded to; and that any documents cited in the response be included in the administrative record. Comments were requested regarding the United States Environmental Protection Agency's (U.S. EPA) tentative determination to issue a RCRA permit to the Permittees.

The 45-day public comment period commenced on April 5, 2001, with a public notice in The Daily Southtown Newspaper. The termination date of this comment period was May 21, 2001. Written comments on the draft Federal permit were received from Clean Harbors Services, Inc. on May 21, 2001.

Pertinent information and materials were available at the Olive-Harvey College Library, 10001 South Woodlawn Ave., Chicago, IL 60628.

RESPONSE TO COMMENTS (Submitted by Clean Harbors Services, Inc. (CHSI))

SECTION III. Air Emission Standards; ( 40 CFR part 264, Subpart CC)

1. *Clean Harbors Services, Inc. (CHSI) commented on Section III.D, Air Emission Standards, which includes references and conditions for the air filter box in Section III.D.2 and III. D.4 respectively. Since the proposed operation by CHSI does not include a filter box in its contaminated exhaust air stream, CHSI requests that (1) the reference to the filter box be removed from Condition III.D.2 and (2) III.D.4 be completely removed.*

**Response:**

The U.S. EPA reviewed the drawings submitted and concluded that CHSI's request is reasonable. Condition III.D.2 has been revised in the final permit to delete the reference to the filter box. Condition III.D.4 regarding the air filter box has been removed in the final permit.

#### CHANGES TO THE DRAFT PERMIT

(Note: All page numbers are referred to the draft federal permit.)

1. Clean Harbors Services, Inc. was deleted from the Draft Permit cover page as owner because the Part A application that was originally submitted incorrectly identified Clean Harbors Services, Inc. as the facility owner. Clean Harbors Services, Inc. subsequently revised the Part A Application to include the Illinois International Port District as the owner of the facility, and signed by the Illinois International Port District as the owner.
2. "Draft " and "Clean Harbors Services, Incorporated" in the header were deleted from the draft permit, because such references are not needed in the final Federal permit.
3. Page numbers have been changed to coincide with the final modified permit.
4. Condition III.D.2 (Page 11 of 14) was replaced with the following.  
See Response to Comment No.1.  
  
"The Project shall include, but not be limited to: (1) tandem drum shredders and magnetic separators; (2) enclosed conveyors and transfer chutes; (3) solid lugger bin and enclosure; (4) ventilation ductwork; and (5) instrumentation and control."
5. Condition III.D.4 (Page 12 of 14) was deleted from the final permit.  
See Response to Comment No.1.

#### DETERMINATION

Based on a full review of all relevant data provided to the U.S. EPA, the U.S. EPA has determined that the final permit contains such terms and conditions necessary to protect human health and the environment.

**RESPONSE TO COMMENTS  
REGARDING  
THE MODIFICATION TO THE FEDERAL  
RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) PERMIT  
TO BE ISSUED TO ILLINOIS INTERNATIONAL PORT DISTRICT AND  
CLEAN HARBORS SERVICES, INC., ILD 000 608 471  
CHICAGO, ILLINOIS**

**INTRODUCTION**

This response is issued pursuant to Title 40 of the Code of Federal Regulations (40 CFR) Section 124.17, which requires that any changes of draft permit conditions be specified along with the reason for the change; that all significant comments be described and responded to; and that any documents cited in the response be included in the administrative record. Comments were requested regarding the United States Environmental Protection Agency's (U.S. EPA) tentative determination to issue a RCRA permit to the Permittees.

The 45-day public comment period commenced on April 5, 2001, with a public notice in The Daily Southtown Newspaper. The termination date of this comment period was May 21, 2001. Written comments on the draft Federal permit were received from Clean Harbors Services, Inc. on May 21, 2001.

Pertinent information and materials were available at the Olive-Harvey College Library, 10001 South Woodlawn Ave., Chicago, IL 60628.

**RESPONSE TO COMMENTS (Submitted by Clean Harbors Services, Inc. (CHSI))**

**SECTION III. Air Emission Standards; ( 40 CFR part 264, Subpart CC)**

1. *Clean Harbors Services, Inc. (CHSI) commented on Section III.D, Air Emission Standards, which includes references and conditions for the air filter box in Section III.D.2 and III. D.4 respectively. Since the proposed operation by CHSI does not include a filter box in its contaminated exhaust air stream, CHSI requests that (1) the reference to the filter box be removed from Condition III.D.2 and (2) III.D.4 be completely removed.*

**Response:**

The U.S. EPA reviewed the drawings submitted and concluded that CHSI's request is reasonable. Condition III.D.2 has been revised in the final permit to delete the reference to the filter box. Condition III.D.4 regarding the air filter box has been removed in the final permit.

#### CHANGES TO THE DRAFT PERMIT

(Note: All page numbers are referred to the draft federal permit.)

1. Clean Harbors Services, Inc. was deleted from the Draft Permit cover page as owner because the Part A application that was originally submitted incorrectly identified Clean Harbors Services, Inc. as the facility owner. Clean Harbors Services, Inc. subsequently revised the Part A Application to include the Illinois International Port District as the owner of the facility, and signed by the Illinois International Port District as the owner.
2. "Draft " and "Clean Harbors Services, Incorporated" in the header were deleted from the draft permit, because such references are not needed in the final Federal permit.
3. Page numbers have been changed to coincide with the final modified permit.
4. Condition III.D.2 (Page 11 of 14) was replaced with the following.  
See Response to Comment No.1.  
  
"The Project shall include, but not be limited to: (1) tandem drum shredders and magnetic separators; (2) enclosed conveyors and transfer chutes; (3) solid lugger bin and enclosure; (4) ventilation ductwork; and (5) instrumentation and control."
5. Condition III.D.4 (Page 12 of 14) was deleted from the final permit.  
See Response to Comment No.1.

#### DETERMINATION

Based on a full review of all relevant data provided to the U.S. EPA, the U.S. EPA has determined that the final permit contains such terms and conditions necessary to protect human health and the environment.



SERVICES, INC.

11800 SOUTH STONY ISLAND AVENUE • CHICAGO, IL 60617

(773) 646-6202 • FAX (773) 646-6381

Visit our Website at [www.cleanharbors.com](http://www.cleanharbors.com)

May 18, 2001

Ms. Mara McGinnis  
Illinois Environmental Protection Agency  
1021 North Grand Avenue East  
P.O. Box 19276  
Springfield, IL 62794-9276

Dear Ms McGinnis:

Clean Harbors Services, Inc. (CHSI) is providing comments to a RCRA draft permit modification for the CHSI facility for a hazardous waste shredding system and metalwash system.

The first comment deals with the Federal draft permit under Section III, Air Emission Standards. Part D includes references and conditions for a contaminated air filter box in numbers 2 and 4. The proposed operation does not include a contaminated filter box. CHSI requests that the reference to the contaminated filter box be removed in number 2 and the condition number 4 be completely removed.

The second comment also deals with the Federal draft permit under Section III, Air Emission Standards. For Part D, number 3, CHSI must maintain the organic concentration in the transport ductwork so the concentration does not 50% of the Lower Explosion Limit (LEL) based on the concentration of the organic constituents in the air stream. A review of conceptual design for emissions control indicate the system would probably meet this requirement during operating conditions. However, looking at the worst case scenario, the possibility did exist for the concentration of organic compounds to exceed 50% of the LEL. This was based on the use of LEL data for compounds at a normal oxygen level of 21% by volume in air. Due to inert gas purge and blanketing, the actual oxygen level in the vapor stream will be much lower in the system vents.

In order to assure the organic concentration in the vapor stream will be less than 50% of the LEL at all times, the vent rates will be increased to 800 CFM in the shredding system and 500 CFM for the storage tank and metalwash system. This increase in vent

**RECEIVED**

MAY 21 2001

**IEPA-DLPC**

Ms. Mara McGinnis

May 18, 2001

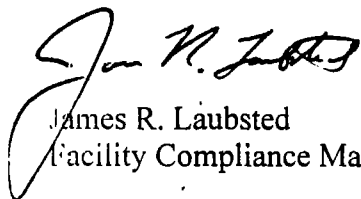
Page 2

rates will necessitate changes in duct work sizes, addition of a vacuum breaker, relocation of the induced flow blower and addition of flame arrestors. These changes will be submitted in the final design drawings. The carbon loading will not change with these modifications.

The third comment deals with changes to Unit 24 due to requirements of Chicago Building Codes. The City of Chicago does not allow shredding operations in buildings larger than 1000 square feet. To meet this requirement, CHSI is modifying the building to be smaller. The building will no longer include the Hydropulpar Tank (T-414) which will now be located outside. A canopy will be added to the outside portion to cover that area. Two stairways will be added to the outside of the building to provide egress from the building. The containment curb is increased from six to nine inches to provide for more containment to the reduced containment area. CHSI also intends to relocate the control room for the operation from Unit 42 to Unit 23. CHSI is including revised CHSI Drawings 4287 and 4288 which include revised containment capacity calculations.

If you have any questions concerning these comments, please contact me at 773-646-6202, x233.

Sincerely,



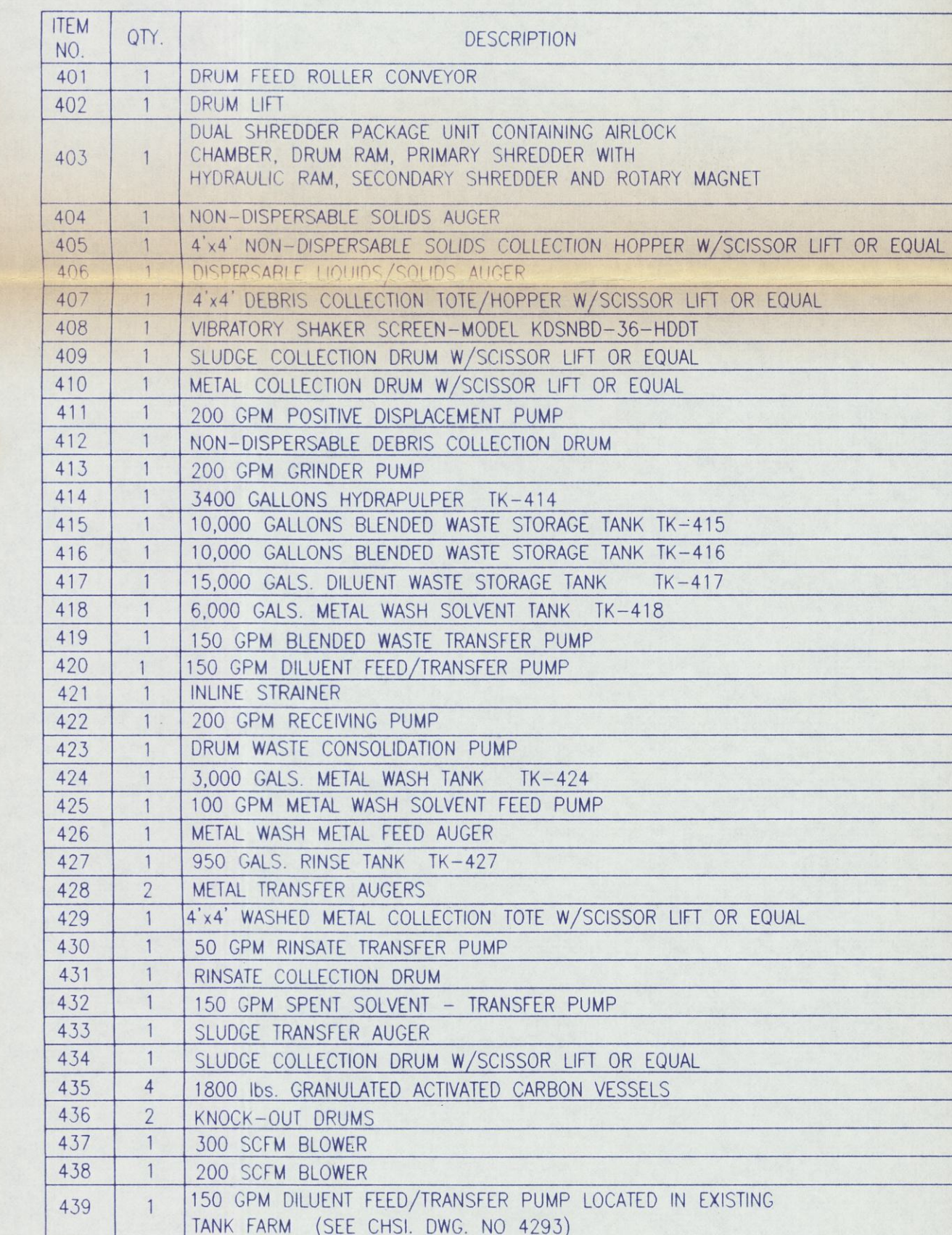
James R. Laubsted  
Facility Compliance Manager

**RECEIVED**

**MAY 21 2001**

**(IEPA-DLPC**





1. BUILDING #42 AND THE TWO ADJOINING CONCRETE PAD ARE EXISTING.
2. WEST END CONCRETE PAD AND THE BUILDING FLOOR WILL BE SEALED AS NECESSARY AND COATED WITH PROTECTO-CRETE 900, TROWEL APPLIED VINYL ESTER COATING, AS MANUFACTURED BY DUDICK, INC. OR EQUIVALENT.
3. STORAGE AREAS WILL BE USED FOR THE STORAGE OF CONTAINERS LIKE FLEX BINS AND 55 GALLON DRUMS.
4. ITEM NO.S 409 & 410 ARE NOT SHOWN. THEY ARE LOCATED UNDER ITEM NO. 408
5. ITEM NO. 407 IS NOT SHOWN IT IS LOCATED UNDERNEATH ITEM NO. 403
6. CONTAINER CAPACITY CALCULATIONS:  
UNIT #69 SEE CHSI DWG. NO. 4292  
UNIT #22 SEE CHSI DWG. NO. 4291
7. REMOVE EXISTING PIPE RACK CONCRETE PIERS, TO BE RELOCATED AS SHOWN

REQUIRED VOLUME:

ONE 4'x4'x4' TOTE = 478 GALLONS (LARGEST CONTAINER)

REQUIRED VOLUME CAPACITY = 478 GALLONS

AVAILABLE VOLUME:

GROSS VOLUME OF THE CONTAINMENT =  $24' - 8" \times 38' \times 0.25' \times 7.48$   
= 1752 GALLONS

VOLUME OCCUPIED BY RAMPS & CURBS =  $2(0.5 \times 10' \times 3' \times 0.25') +$   
 $(4' \times 6' \times 0.25') + (4' \times 3' \times 0.25') \times (7.48)$   
= -124 GALLONS

MISC. (i.e., SOLIDS TOTE, STORED DRUMS) = -250 GALLONS

THEREFORE THE NET VOLUME AVAILABLE = 1378 GALLONS

REQUIRED VOLUME:

ONE 4'x4'x4' TOTE = 478 GALLONS (LARGEST CONTAINER)

PRECIPITATION =  $4.7''/12'' \times 539 \text{ SQ. FT.} \times 7.48$   
= 1573 GALLONS

REQUIRED CONTAINMENT CAPACITY = 2051 GALLONS

AVAILABLE VOLUME:

VOLUME OF THE CONTAINMENT =  $26.67' \times 25.83' \times 0.25' \times 7.48$   
= 1288 GALLONS

VOLUME OF RAMP AND EQUIPMENT

RAMPS =  $(10' \times 3' \times 0.25' \times 7.48) + (21.25' \times 5.67' \times 0.25' \times 7.48)$   
= -282 GALLONS

WHEELS STORED, CONCRETE PIERS) = -230 GALLONS

CONTAINMENT IN WEST SIDE PAD = 776 GALLONS

CONTAINMENT CAPACITY UNIT #42 = 900 GALLONS

AVAILABLE CAPACITY =  $1378 + 776 = 2154$  GALLONS

REQUIRED VOLUME:

TANK TK-414 = 3400 GALLONS (LARGEST CONTAINER)

REQUIRED CONTAINMENT CAPACITY =  $(1.25 \times 3400 \text{ GALLONS})$   
= 4250 GALLONS

AVAILABLE VOLUME:

GROSS VOLUME OF THE CONTAINMENT =  $(38''-8" \times 34'-8" \times 0.75' \times 7.48)$   
= 7520 GALLONS

DISPLACEMENT OF RAMPS AND EQUIPMENT

RAMP =  $(15' \times 10.5' \times 0.42' \times 7.48) / 2$   
= -250 GALLONS

RAMP =  $(9.5' \times 10.5' \times 0.42' \times 7.48) / 2$   
= -157 GALLONS

RAMP =  $(4.67' \times 15' \times 0.33' \times 7.48) / 2$   
= -86 GALLONS

RAMP =  $(4.67' \times 9.5' \times 0.33' \times 7.48) / 2$   
= -55 GALLONS

MISC. (i.e., METAL TOTE, SLUDGE DRUM, PERS) = -500 GALLONS

THEREFORE THE NET VOLUME AVAILABLE = 6472 GALLONS

REQUIRED VOLUME:

TANK TK-424 = 3000 GALLONS (LARGEST CONTAINER)  
PRECIPITATION =  $4.7' / 12" \times 6' \times 30' \times 7.48$   
= 5537 GALLONS

REQUIRED CONTAINMENT CAPACITY = 8537 GALLONS

AVAILABLE VOLUME:

GROSS VOLUME OF THE CONTAINMENT =  $30' \times 63' \times 0.75' \times 7.48$   
= 10602 GALLONS

D	
---	--

THEFORE THE NET VOLUME AVAILABLE = 9417 GALLONS

D	REVISED BUILDING #24 EQUIPMENT LAYOUT AND SECONDARY CONTAINMENT CALC
C	ADDED NOTE 7, REVISED SECONDARY CONTAINMENT CALCULATIONS
REV	DESCRIPTION

HOYER-SCHLESINGER-TURNER, INC.  
CONSULTING-ENGINEERS  
300 WEST ADAMS STREET CHICAGO, ILLINOIS 60606  
PROJECT 1785-2

D	RCRA PERMIT	A.A.A.	A.M.L.	03/12/01
C	RCRA PERMIT	A.A.A.	A.M.L.	08/29/01
B	RCRA PERMIT	A.A.A.	A.M.L.	02/10/01
A	RCRA PERMIT	A.A.A.	A.M.L.	01/18/01
ISSUE	DESCRIPTION	OWNER	CHRD	APPR DATE

CleanHarbors  
ENVIRONMENTAL SERVICES, INC.

11800 S. STONY ISLAND AVE.  
CHICAGO, ILLINOIS 60617

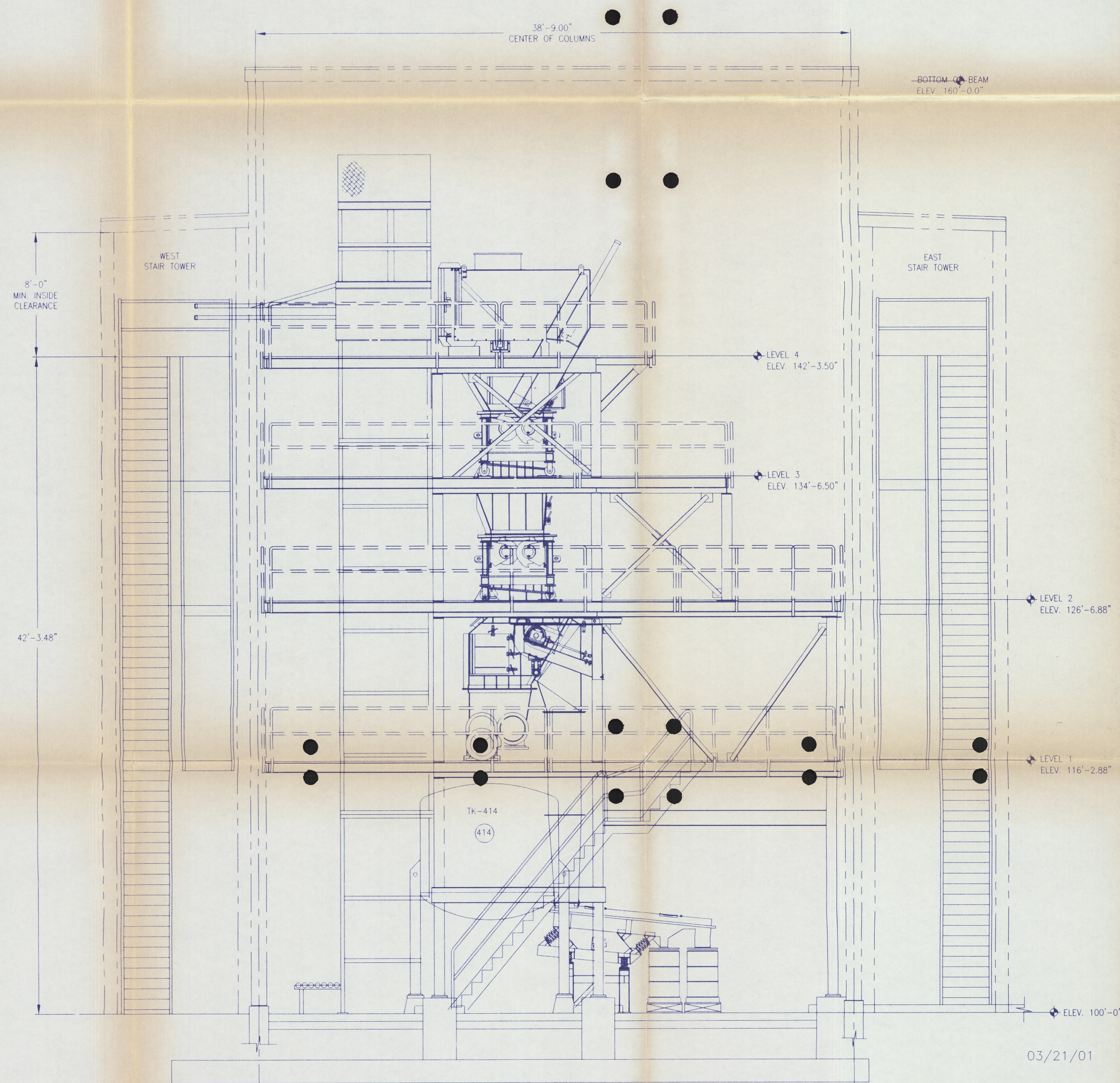
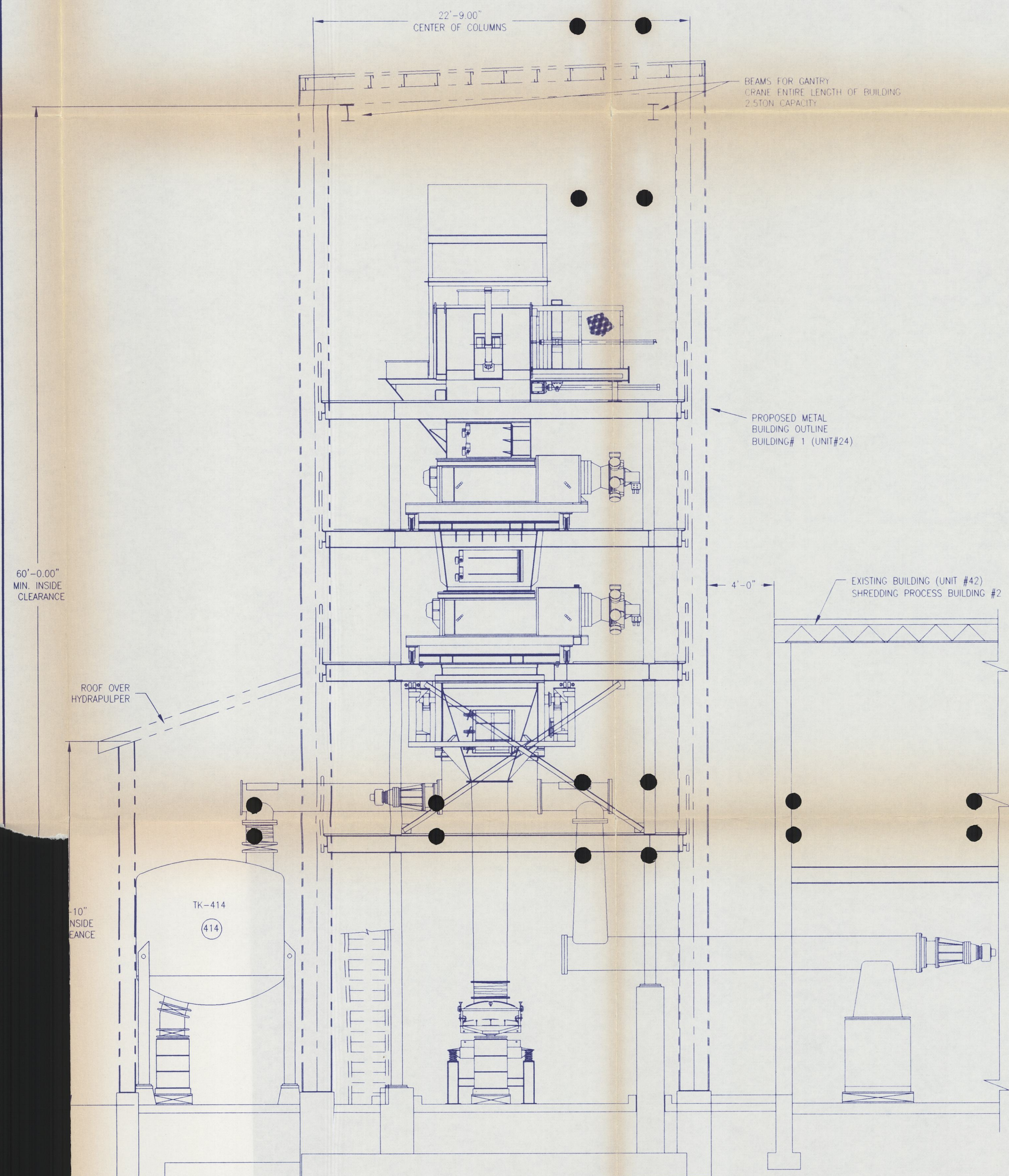
### SHREDDING PROCESS EQUIPMENT LAYOUT

RECEIVED  
MAY 21 2001  
IEPA-DLPC

PROJECT NO.	CH114630
SCALE	1/8"=1'-0"

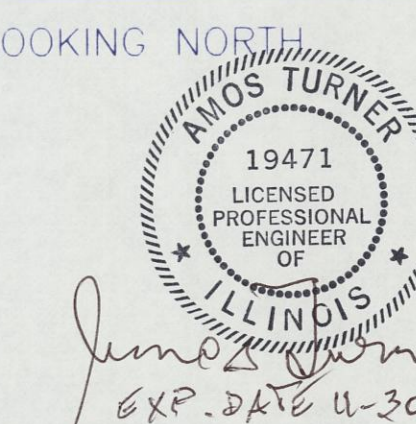
DRAWING NO. 4630-M-17





## NOTES

1. FOR FOUNDATION DESIGN DETAIL SEE CHSI DWG. NO. 4299
2. FOR PLAN VIEW & LAYOUT SEE CHSI DWG. NO. 4287
3. FOR EQUIPMENT DESCRIPTION BY ITEM NO. SEE CHSI DWG. NO. 4286



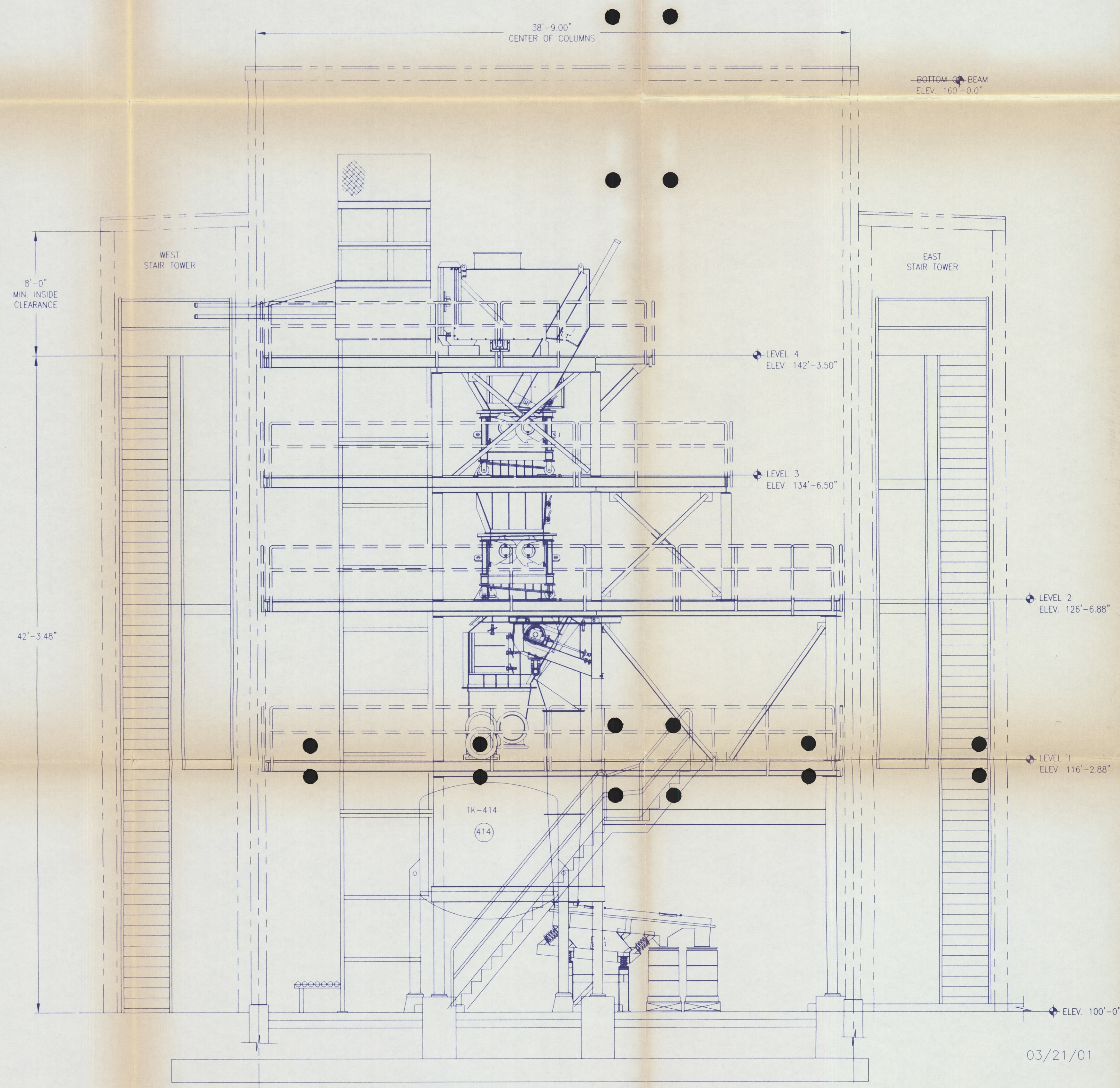
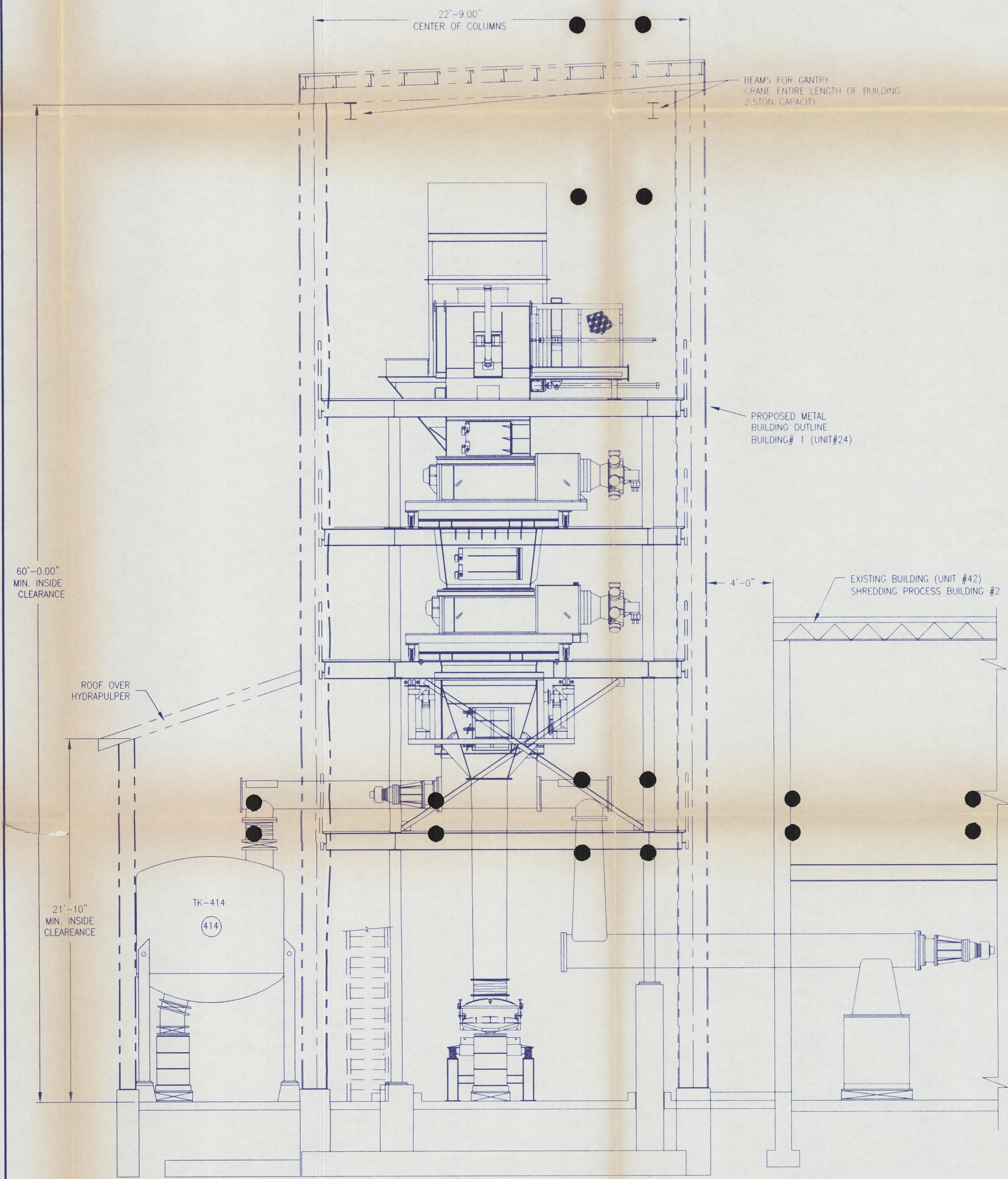
B	RCRA PERMIT	A.A.A.	A.M.L.	A.M.L.	3/21/0
A	RCRA PERMIT	A.A.A.	A.M.L.	A.M.L.	1/20/0
ISSUE	DESCRIPTION	DRWN.	CHKD	APPR	DATE

CleanHarbors  
ENVIRONMENTAL SERVICES, INC.

011  
TITLE  
CLEAN HARBORS SERVICES, INC.  
11800 S. STONY ISLAND AVE.  
CHICAGO, ILLINOIS 60617  
ELEVATIONS OF SHREDDING  
PROCESS BUILDING #1 (UNIT #24)  
RECEIVED  
MAY 21 2001  
EPA-DLPC

PROJECT NO. CH114630	DRAWING NO.
SCALE 1/4"=1'-0"	4630-M-19



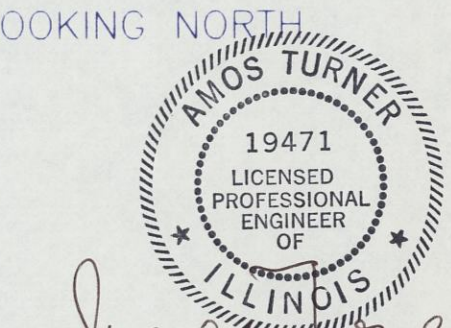


← SOUTH ELEVATION NORTH →  
 LOOKING WEST  
 STAIR TOWER NOT SHOWN

← WEST ELEVATION EAST →  
 LOOKING NORTH

**NOTES**

1. FOR FOUNDATION DESIGN ETAIL SEE CHSI DWG. NO. 4299
2. FOR PLAN VIEW & LAYOUT SEE CHSI DWG. NO. 4287
3. FOR EQUIPMENT DESCRIPTION BY ITEM NO. SEE CHSI DWG. NO. 4286



CHSI DWG. NO. 4288

B	RCRA PERMIT	AAA	A.M.L.	A.M.L.	3/21/01
A	RCRA PERMIT	AAA	A.M.L.	A.M.L.	1/20/00
ISSUE	DESCRIPTION	DRWN	CHKD	APPR	DATE

**Clean Harbors**  
ENVIRONMENTAL SERVICES, INC.

1501 Washington Street  
 Braintree, Massachusetts 02185  
 Telephone (781) 849-1800

---

TITLE: **CLEAN HARBORS SERVICES, INC.**

11800 S. STONY ISLAND AVE. **RECEIVED**  
 CHICAGO, ILLINOIS 60617 MAY 21 2001

**ELEVATIONS OF SHREDDING PROCESS BUILDING #1 (UNIT #24)**

PROJECT NO. CH114630 DRAWING NO. **4630-M-19**

SCALE: 1/4" = 1'-0"

03/21/01





Am-04

11800 SOUTH STONY ISLAND AVENUE • CHICAGO, IL 60617  
(773) 646-6202 • FAX (773) 646-6381  
Visit our Website at [www.cleanharbors.com](http://www.cleanharbors.com)

February 14, 2001

Mr. James Blough  
U.S. Environmental Protection Agency  
RCRA Permit Section, DW-8J  
77 West Jackson Boulevard  
Chicago, IL 60604-3590

Dear Mr. Blough:

Clean Harbors Services, Inc. (CHSI) is resubmitting Page 2 of the Part A (EPA Form 8700-23) for the hazardous waste shredder application. The original submittal incorrectly identified CHSI as the facility owner (section VIII) instead of the Illinois International Port District. The corrected page is enclosed.

If you have any questions or require additional information, please contact me at (773) 646-6202, x233.

Sincerely,

A handwritten signature in black ink, appearing to read 'James R. Laubsted'.

James R. Laubsted  
Facility Compliance Manager

EPA I.D. Number (Enter from page 1)

Secondary ID Number (Enter from page 1)

I L D O 0 0 6 0 8 4 7 1

## VII. Operator Information (See instructions)

Name of Operator

C L E A N H A R B O R S S E R V I C E S I N C

Street or P.O. Box

1 1 8 0 0 S O U T H S T O N Y I S L A N D A V E

City or Town

State

ZIP Code

C H I C A G O

I L

6 0 6 1 7

Phone Number (Area Code and Number)

7 7 3 - 6 4 6 - 6 2 0 2

B. Operator Type

P

C. Change of Operator Indicator

Yes

No

X

Date Changed  
Month Day Year

## VIII. Facility Owner (See instructions)

A. Name of Facility's Legal Owner

I l l i n o i s I n t e r n a t i o n a l P o r t D i s t r i c t

Street or P.O. Box

3 6 0 0 E a s t 9 5 t h S t r e e t

City or Town

State

ZIP Code

C H I C A G O

I L

6 0 6 1 7

Phone Number (Area Code and Number)

7 7 3 - 6 4 6 - 4 4 0 0

B. Owner Type

P

C. Change of Owner Indicator

Yes

No

X

Date Changed  
Month Day Year

## IX. SIC Codes (4-digit, in order of significance)

Primary

Secondary

4 9 5 3

(Description)

R E F U S E S Y S T E M S

(Description)

Secondary

Secondary

(Description)

(Description)

## X. Other Environmental Permits (See instructions)

A. Permit Type  
(Enter code)

B. Permit Number

C. Description

R

B - 1 6

I E P A R C R A P A R T B

R

I L D 0 0 0 6 0 8 4 7 1

U S E P A H S W A P E R M I T

R

1 9 8 0 - 3 6 - 0 P

I E P A L A N D ( O P E R A T I O N S )

R

1 9 8 4 - E P - 0 8 8 9

I E P A L A N D ( O P E R A T I O N S )

P

0 3 1 6 0 0 B T E

E

1 9 9 0 - E N - 1 3 0 1

I E P A W A T E R P O L L U T I O N C O N T R O L

IL INT PORT DIST. 007417

AM03

ANTHONY G. IANELLO

February 14, 2001

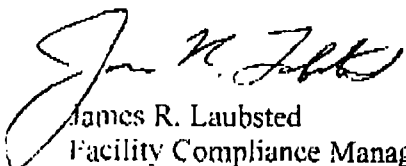
Mr. James Blough  
U.S. Environmental Protection Agency  
RCRA Permit Section, DW-8J  
77 West Jackson Boulevard  
Chicago, IL 60604-3590

Dear Mr. Blough:

Clean Harbors Services, Inc. (CHSI) is resubmitting Page 2 of the Part A (EPA Form 8700-23) for the hazardous waste shredder application. The original submittal incorrectly identified CHSI as the facility owner (section VIII) instead of the Illinois International Port District. The corrected page is enclosed.

If you have any questions or require additional information, please contact me at (773) 646-6202. x233.

Sincerely,

  
James R. Laubsted  
Facility Compliance Manager

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

Form Approved, OMB No. 2050-0034 Expires 10/31/99  
GSA No. 024B-EPA-07

EPA I.D. Number (Enter from page 1)

Secondary ID Number (Enter from page 1)

I L D O O O 6 0 8 4 7 1

## VII. Operator Information (See instructions)

Name of Operator

CLEAN HARBORS SERVICES INC

Street or P.O. Box

11800 SOUTH STONY ISLAND AVE

City or Town

CHICAGO

State

IL

ZIP Code

60617

Phone Number (Area Code and Number)

773-646-6202

B. Operator Type

P

C. Change of Operator Indicator

Yes

No

X

Date Changed  
Month Day Year

## VIII. Facility Owner (See instructions)

A. Name of Facility's Legal Owner

Illinois International Port District

Street or P.O. Box

3600 East 95th Street

City or Town

CHICAGO

State

IL

ZIP Code

60617

Phone Number (Area Code and Number)

773-646-4400

B. Owner Type

P

C. Change of Owner Indicator

Yes

No

X

Date Changed  
Month Day Year

## IX. SIC Codes (4-digit, in order of significance)

Primary

4953

(Description)

REFUSE SYSTEMS

Secondary

(Description)

Secondary

(Description)

Secondary

(Description)

## X. Other Environmental Permits (See instructions)

A. Permit Type  
(Enter code)

B. Permit Number

C. Description

R

B - 16

IEPA RCRA PART B

R

I L D O O O 6 0 8 4 7 1

USEPA HSWA PERMIT

R

1980-36-0P

IEPA LAND (OPERATIONS)

R

1984-EP-0889

IEPA LAND (OPERATIONS)

P

031600BTE

E

1990-EN-1301

IEPA WATER POLLUTION CONTROL

Am-02

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

Form Approved. OMB No. 2050-0034 Expires 10/31/99  
GSA No. 0248-EPA-OT

For EPA Regional Use Only	<b>EPA</b>  United States Environmental Protection Agency Washington, DC 20460  <b>Hazardous Waste Permit Application Part A</b>  (Read the instructions before starting)	
Date Received Month Day Year		

I. Installation's EPA ID Number (Mark 'X' in the appropriate box)

<input type="checkbox"/> A. First Part A Submission	<input checked="" type="checkbox"/> B. Part A Amendment # _____
C. Installation's EPA ID Number I L D 0 0 0 6 0 8 4 7 1	D. Secondary ID Number (If applicable)

II. Name of Facility

C L E A N H A R B O R S S E R V I C E S I N C

III. Facility Location (Physical address not P.O. Box or Route Number)

A. Street

1 1 8 0 0 S O U T H S T O N Y I S L A N D A V E

Street (Continued)

City or Town

C H I C A G O

State

I L

Zip Code

6 0 6 1 7

County Code  
(If known)

County Name

C O O K

B. Land Type

(Enter code)

S

C. Geographic Location

LATITUDE (Degrees, Minutes, & Seconds) LONGITUDE (Degrees, Minutes & Seconds)

4 1 4 0 0 4 4

0 8 7 3 4 0 4 6

D. Facility Existence Date

Month Day Year

0 7 2 9 1 9 8 0

IV. Facility Mailing Address

Street or P.O. Box

1 1 8 0 0 S O U T H S T O N Y I S L A N D A V E

City or Town

C H I C A G O

State

I L

Zip Code

6 0 6 1 7

V. Facility Contact (Person to be contacted regarding waste activities at facility)

Name (Last)

L A U B S T E D

(First)

J A M E S

Job Title

C O M P L I A N C E M G R

Phone Number (Area Code and Number)

7 7 3 - 6 4 6 - 6 2 0 2

VI. Facility Contact Address (See instructions)

A. Contact Address

Location Mailing Other

X

B. Street or P.O. Box

City or Town

State

Zip Code

EPA I.D. Number (Enter from page 1)

Secondary ID Number (Enter from page 1)

I L D O 0 0 6 0 8 4 7 1

## VII. Operator Information (See instructions)

Name of Operator

C L E A N H A R B O R S S E R V I C E S I N C

Street or P.O. Box

1 1 8 0 0 S O U T H S T O N Y I S L A N D A V E

City or Town

State

ZIP Code

C H I C A G O

I L

6 0 6 1 7

Phone Number (Area Code and Number)

7 7 3 - 6 4 6 - 6 2 0 2

B. Operator Type

P

C. Change of Operator  
Indicator

Yes

No

X

Date Changed  
Month Day Year

## VIII. Facility Owner (See instructions)

A. Name of Facility's Legal Owner

C L E A N H A R B O R S S E R V I C E S I N C

Street or P.O. Box

1 1 8 0 0 S O U T H S T O N Y I S L A N D A V E

City or Town

State

ZIP Code

C H I C A G O

I L

6 0 6 1 7

Phone Number (Area Code and Number)

7 7 3 - 6 4 6 - 6 2 0 2

B. Owner Type

P

C. Change of Owner  
Indicator

Yes

No

X

Date Changed  
Month Day Year

## IX. SIC Codes (4-digit, in order of significance)

Primary

4 9 5 3

(Description)

REFUSE SYSTEMS

Secondary

(Description)

Secondary

(Description)

Secondary

(Description)

## X. Other Environmental Permits (See instructions)

A. Permit Type  
(Enter code)

B. Permit Number

C. Description

R

B - 1 6

IEPA RCRA PART B

R

I L D O 0 0 6 0 8 4 7 1

USEPA HSWA PERMIT

R

1 9 8 0 - 3 6 - 0 P

IEPA LAND (OPERATIONS)

R

1 9 8 4 - E P - 0 8 8 9

IEPA LAND (OPERATIONS)

P

0 3 1 6 0 0 B T E

E

1 9 9 0 - E N - 1 3 0 1

IEPA WATER POLLUTION CONTROL

EPA I.D. Number (Enter from page 1)

Secondary ID Number (Enter from page 1)

I L D 0 0 0 6 0 8 4 7 1

## XI. Nature of Business (Provide a brief description)

Clean Harbors Services, Inc. (CHSI) offers a liquid industrial waste pretreatment service. CHSI accepts hazardous and non-hazardous wastewaters which do not meet sewer discharge specifications. Through physical and chemical treatment, CHSI produces an effluent acceptable for sewer discharge and a dewatered sludge. The effluent is discharged into the Metropolitan Water Reclamation District of Greater Chicago sewer system and the sludge is shipped to properly-licensed offsite treatment and/or disposal facilities. CHSI also accepts hazardous and non-hazardous waste, which is stored in tanks and containers & subsequently transferred to properly-licensed offsite treatment and/or disposal facilities.

## XII. Process Codes and Design Capacities

- A. **PROCESS CODE** - Enter the code from the list of process codes below that best describes each process to be used at the facility. Thirteen lines are provided for entering codes. If more lines are needed, attach a separate sheet of paper with the additional information. For "other" processes (i.e., D99, S99, T04 and X99), describe the process (including its design capacity) in the space provided in Item XIII.
- B. **PROCESS DESIGN CAPACITY** - For each code entered in column A, enter the capacity of the process.
1. **AMOUNT** - Enter the amount. In a case where design capacity is not applicable (such as in a closure/post-closure or enforcement action) enter the total amount of waste for that process.
  2. **UNIT OF MEASURE** - For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.
- C. **PROCESS TOTAL NUMBER OF UNITS** - Enter the total number of units used with the corresponding process code.

PROCESS CODE	PROCESS	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY	PROCESS CODE	PROCESS	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
D79	<u>Disposal:</u> Underground Injection	Gallons; Liters; Gallons Per Day; or Liters Per Day	T87	Smelting, Melting, Or Refining Furnace	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour
D80	Landfill	Acre-feet or Hectare-meter	T88	Titanium Dioxide Chloride Process Oxidation Reactor	
D81	Land Treatment	Acres or Hectares	T89	Methane Reforming Furnace	
D82	Ocean Disposal	Gallons Per Day or Liters Per Day	T90	Pulping Liquor Recovery Furnace	
D83	Surface Impoundment	Gallons or Liters	T91	Combustion Device Used In The Recovery Of Sulfur Values From Spent Sulfuric Acid	
D99	Other Disposal	Any Unit of Measure Listed Below	T92	Halogen Acid Furnaces	
S01	<u>Storage:</u> Container (Barrel, Drum, Etc.)	Gallons or Liters	T93	Other Industrial Furnaces Listed in 40 CFR §260.10	
S02	Tank	Gallons or Liters	T94	Containment Building-Treatment	Cubic Yards or Cubic Meters
S03	Waste Pile	Cubic Yards or Cubic Meters	<u>Miscellaneous (Subpart X):</u>		
S04	Surface Impoundment	Gallons or Liters	X01	Open Burning/Open Detonation	Any Unit of Measure Listed Below
S05	Drip Pad	Gallons or Liters	X02	Mechanical Processing	Short Tons Per Hour; Metric Tons Per Hour; Short Tons Per Day; Metric Tons Per Day; Pounds Per Hour; or Kilograms Per Hour
S06	Containment Building-Storage	Cubic Yards or Cubic Meters	X03	Thermal Unit	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour
S99	Other Storage	Any Unit of Measure Listed Below	X04	Geologic Repository	Cubic Yards or Cubic Meters
T01	<u>Treatment:</u> Tank	Gallons Per Day or Liters Per Day	X99	Other Subpart X	Any Unit of Measure Listed Below
T02	Surface Impoundment	Gallons Per Day or Liters Per Day			
T03	Incinerator	Short Tons Per Hour; Metric Tons Per Hour; Gallons Per Hour; Liters Per Hour; or Btu's Per Hour			
T04	Other Treatment	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour			
T80	Boiler	Gallons or Liters			
T81	Cement Kiln	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour			
T82	Lime Kiln	Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour			
T83	Aggregate Kiln	Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour			
T84	Phosphate Kiln	Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour			
T85	Coke Oven	Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour			
T86	Blast Furnace	Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; or Btu's Per Hour			

UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE
Gallons	G	Short Tons Per Hour	D	Cubic Yards	Y
Gallons Per Hour	E	Metric Tons Per Hour	W	Cubic Meters	C
Gallons Per Day	U	Short Tons Per Day	N	Acres	B
Liters	L	Metric Tons Per Day	S	Acre-feet	A
Liters Per Hour	H	Pounds Per Hour	J	Hectares	Q
Liters Per Day	V	Kilograms Per Hour	R	Hectare-meter	F
				Btu's Per Hour	I



EPA I.D. Number (Enter from page 1)

Secondary ID Number (Enter from page 1)

I L D 0 0 0 6 0 8 4 7 1

## XII. Process Codes and Design Capabilities (Continued)

EXAMPLE FOR COMPLETING ITEM XII (Shown in line number X-1 below): A facility has a storage tank, which can hold 533,788 gallons.

Line Number	A. Process Code (From list above)			B. PROCESS DESIGN CAPACITY		C. Process Total Number Of Units	For Official Use Only			
				1. Amount (Specify)	2. Unit Of Measure (Enter code)					
X 1	S	0	2	533,788	G	001				
1	S	0	1	162,305 (2951 X 55-GAL. EQUIVALENT)	G	2951				
2	S	0	1	360 (12 X 30 CUBIC YARDS EQUIVALENT)	Y	012				
3	S	0	1	268,800 (TRANSPORTATION VEHICLES)	G	031				
4	S	0	2	306,336	G	037				
5	D	8	3	2,000,000	G	004				
6	T	0	1	A 200,000	U	001				
7										
8										
9										
10										
11										
12										
13										

NOTE: If you need to list more than 13 process codes, attach an additional sheet(s) with the information in the same format as above. Number the lines sequentially, taking into account any lines that will be used for "other" processes (i.e., D99, S99, T04 and X99) in item XIII.

## XIII. Other Processes (Follow instructions from item XII for D99, S99, T04 and X99 process codes)

Line Number (Enter as in seg w/XII)	A. Process Code (From list above)			B. PROCESS DESIGN CAPACITY		C. Process Total Number Of Units	D. Description Of Process
				1. Amount (Specify)	2. Unit Of Measure (Enter code)		
X 1	T	0	4				In-situ Vitrification
1	T	0	4	12,000	U	001	T04A: Treatment of D002 liquid/solid mixtures in containers by removal of liquid
2	T	0	4	3,000	U	001	T04B: Compaction of hazardous waste solids in containers
3	T	0	4	55,000	U	001	T04C: Hazardous waste fuel blending
4	T	0	4	600	U	010	T04D: Stabilization/fixation of hazardous waste in roll-off containers

EPA I.D. Number (Enter from page 1)				Secondary ID Number (Enter from page 1)			
I L D 0 0 0 6 0 8 4 7 1							
XII. Process Codes and Design Capabilities (Continued)							
EXAMPLE FOR COMPLETING ITEM XII (Shown in line number X-1 below): A facility has a storage tank, which can hold 533.788 gallons.							
Line Number	A. Process Code (From list above)	B. PROCESS DESIGN CAPACITY		C. Process Total Number Of Units	For Official Use Only		
		1. Amount (Specify)	2. Unit Of Measure (Enter code)				
X 1	S 0 2	5 3 3 . 7 8 8	G	0 0 1			
1							
2							
3							
4							
5							
6							
7							
8							
9							
1 0							
1 1							
1 2							
1 3							
NOTE: If you need to list more than 13 process codes, attach an additional sheet(s) with the information in the same format as above. Number the lines sequentially, taking into account any lines that will be used for "other" processes (i.e., D99, S99, T04 and X99) in item XIII.							
XIII. Other Processes (Follow instructions from item XII for D99, S99, T04 and X99 process codes)							
Line Number (Enter as in seg w/XII)	A. Process Code (From list above)	B. PROCESS DESIGN CAPACITY		C. Process Total Number Of Units	D. Description Of Process		
		1. Amount (Specify)	2. Unit Of Measure (Enter code)				
X 1	T 0 4				In-situ Vitrification		
1 1	T 0 4	416,075.00	U	001	T04E: Treatment of D002 liquids in containers and tanks		
1 2	T 0 4	5,000.00	U	001	T04F: Treatment of organic peroxides in containers		
1 3	T 0 4	5,000.00	U	001	T04G: Treatment of acid cyanides in container		
1 4	T 0 4	416,075.00	U	001	T04H: Treatment of hazardous waste in containers and tanks using phase separation		

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ILD000608471	

## XII. Process Codes and Design Capabilities (Continued)

EXAMPLE FOR COMPLETING ITEM XII (Shown in line number X-1 below): A facility has a storage tank, which can hold 533,788 gallons.

Line Number	A. Process Code (From list above)	B. PROCESS DESIGN CAPACITY		C. Process Total Number Of Units	For Official Use Only
		1. Amount (Specify)	2. Unit Of Measure (Enter code)		
X 1	S 0 2	533,788	G	001	
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					

NOTE: If you need to list more than 13 process codes, attach an additional sheet(s) with the information in the same format as above. Number the lines sequentially, taking into account any lines that will be used for "other" processes (i.e., D99, S99, T04 and X99) in item XIII.

## XIII. Other Processes (Follow instructions from item XII for D99, S99, T04 and X99 process codes)

Line Number (Enter as in seg w/XII)	A. Process Code (From list above)	B. PROCESS DESIGN CAPACITY		C. Process Total Number Of Units	D. Description Of Process
		1. Amount (Specify)	2. Unit Of Measure (Enter code)		
X 1	T 0 4				In-situ Vitrification
2 1	X 9 9	7,000.00	U	001	X99A: Consolidated of paint/paint-related material using a compactor
2 2	X 9 9	48,000.00	J	001	X99B: Hazardous waste shredding system
3					
4					

EPA I.D. Number (Enter from page 1)

Secondary ID Number (Enter from page 1)

I L D 0 0 0 6 0 8 4 7 1

## XIV. Description of Hazardous Wastes

- A. EPA HAZARDOUS WASTE NUMBER - Enter the four-digit number from 40 CFR, Part 261 Subpart D of each listed hazardous waste you will handle. For hazardous wastes which are not listed in 40 CFR, Part 261 Subpart D, enter the four-digit number(s) from 40 CFR, Part 261 Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.
- B. ESTIMATED ANNUAL QUANTITY - For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.
- C. UNIT OF MEASURE - For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

## D. PROCESSES

## 1. PROCESS CODES:

For listed hazardous waste: For each listed hazardous waste entered in column A select the code(s) from the list of process codes contained in item XII A. on page 3 to indicate how the waste will be stored, treated, and/or disposed of at the facility.

For non-listed hazardous waste: For each characteristic or toxic contaminant entered in column A, select the code(s) from the list of process codes contained in item XII A. on page 3 to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic contaminant.

NOTE: THREE SPACES ARE PROVIDED FOR ENTERING PROCESS CODES. IF MORE ARE NEEDED:

- Enter the first two as described above.
- Enter "000" in the extreme right box of item XIV-D(1).
- Enter in the space provided on page 7, item XIV-E, the line number and the additional code(s).

- PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form (D.(2)).

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER - Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

- Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B, C and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
- In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "Included with above" and make no other entries on that line.
- Repeat step 2 for each EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM XIV (shown in line numbers X-1, X-2, X-3, and X-4 below) - A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

Line Number	A. EPA HAZARD WASTE NO. (Enter code)				B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (Enter code)	D. PROCESS									
							(1) PROCESS CODES (Enter code)					(2) PROCESS DESCRIPTION (If a code is not entered in D(1))				
X 1	K	0	5	4	900	P	T	0	3	D	8	0				
X 2	D	0	0	2	400	P	T	0	3	D	8	0				
X 3	D	0	0	1	100	P	T	0	3	D	8	0				
X 4	D	0	0	2												Included With Above

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Secondary ID Number (Enter from page 1)

I L 0 0 0 6 0 8 4 7 1

## XIV. Description of Hazardous Wastes (Continued)

Line Number	A. EPA HAZARD WASTE NO. (Enter code)				B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (Enter code)	D. PROCESSES									
							(1) PROCESS CODES (Enter code)					(2) PROCESS DESCRIPTION (If a code is not entered in D(1))				
1	D	0	0	1	15,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH T01A X99AB
2	D	0	0	2	5,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH T01A X99AB
3	D	0	0	3	5,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH T01A X99AB
4	D	0	0	4	5,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH T01A X99AB
5	D	0	0	5	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH T01A X99AB
6	D	0	0	6	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH T01A X99AB
7	D	0	0	7	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH T01A X99AB
8	D	0	0	8	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH T01A X99AB
9	D	0	0	9	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH T01A X99AB
10	D	0	1	0	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH T01A X99AB
11	D	0	1	1	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH T01A X99AB
12	D	0	1	2	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99AB
13	D	0	1	3	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99AB
14	D	0	1	4	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99AB
15	D	0	1	5	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99AB
16	D	0	1	6	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99AB
17	D	0	1	7	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99AB
18	D	0	1	8	15,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH T01A X99AB
19	D	0	1	9	15,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH T01A X99AB
20	D	0	2	0	15,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99AB
21	D	0	2	1	15,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH T01A X99AB
22	D	0	2	2	15,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH T01A X99AB
23	D	0	2	3	15,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH T01A X99AB
24	D	0	2	4	15,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH T01A X99AB
25	D	0	2	5	15,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH T01A X99AB
26	D	0	2	6	15,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH T01A X99AB
27	D	0	2	7	15,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH T01A X99AB
28	D	0	2	8	15,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH T01A X99AB
29	D	0	2	9	15,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH T01A X99AB
30	D	0	3	0	15,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH T01A X99AB
31	D	0	3	1	15,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99AB
32	D	0	3	2	15,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH T01A X99AB
33	D	0	3	3	15,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH T01A X99AB

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Secondary ID Number (Enter from page 1)

I L D 0 0 0 6 0 8 4 7 1

## XIV. Description of Hazardous Wastes (Continued)

Line Number	A. EPA HAZARD WASTE NO. (Enter code)				B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (Enter code)	D. PROCESSES											
							(1) PROCESS CODES (Enter code)						(2) PROCESS DESCRIPTION (If a code is not entered in D(1))					
1	D	0	3	4	15,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH	T01A	X99AB
2	D	0	3	5	15,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH	T01A	X99AB
3	D	0	3	6	15,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH	T01A	X99AB
4	D	0	3	7	15,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH	T01A	X99AB
5	D	0	3	8	15,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH	T01A	X99AB
6	D	0	3	9	15,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH	T01A	X99AB
7	D	0	4	0	15,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH	T01A	X99AB
8	D	0	4	1	15,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH	T01A	X99AB
9	D	0	4	2	15,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH	T01A	X99AB
10	D	0	4	3	15,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH	T01A	X99AB
11	F	0	0	1	7,500	T	S	0	1	S	0	2	T	0	4	ABCEFGH	T01A	X99AB
12	F	0	0	3	7,500	T	S	0	1	S	0	2	T	0	4	ABCEFGH	T01A	X99AB
13	F	0	0	4	7,500	T	S	0	1	S	0	2	T	0	4	ABCEFGH	T01A	X99AB
14	F	0	0	5	7,500	T	S	0	1	S	0	2	T	0	4	ABCEFGH	T01A	X99AB
15	F	0	0	6	1,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH	T01A	X99AB
16	F	0	0	7	1,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH	T01A	X99AB
17	F	0	0	8	1,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH	T01A	X99AB
18	F	0	0	9	1,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH	T01A	X99AB
19	F	0	1	0	1,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH	T01A	X99AB
20	F	0	1	1	1,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH	T01A	X99AB
21	F	0	1	2	1,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH	T01A	X99AB
22	F	0	1	9	1,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH	T01A	X99AB
23	F	0	2	0	1,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH	T01A	X99AB
24	F	0	2	1	1,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH	T01A	X99AB
25	F	0	2	2	1,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH	T01A	X99AB
26	F	0	2	3	1,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH	T01A	X99AB
27	F	0	2	4	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	T01A	X99AB
28	F	0	2	5	15,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH	T01A	X99AB
29	F	0	2	6	1,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH	T01A	X99AB
30	F	0	2	7	1,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH	T01A	X99AB
31	F	0	2	8	1,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH	T01A	X99AB
32	F	0	3	2	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	T01A	X99AB
33	F	0	3	4	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	T01A	X99AB

EPA I.D. Number (Enter from page 1)							Secondary ID Number (Enter from page 1)										
I L D 0 0 0 6 0 8 4 7 1																	
XIV. Description of Hazardous Wastes (Continued)																	
Line Number	A. EPA HAZARD WASTE NO. (Enter code)				B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (Enter code)	D. PROCESSES										
							(1) PROCESS CODES (Enter code)				(2) PROCESS DESCRIPTION (If a code is not entered in D(1))						
1	F	0	3	5	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
2	F	0	3	7	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
3	F	0	3	8	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
4	F	0	3	9	15,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH T01A	X99A B
5	K	0	0	1	1,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
6	K	0	0	2	1,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH T01A	X99A B
7	K	0	0	3	1,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH T01A	X99A B
8	K	0	0	4	1,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH T01A	X99A B
9	K	0	0	5	1,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH T01A	X99A B
10	K	0	0	6	1,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH T01A	X99A B
11	K	0	0	7	1,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH T01A	X99A B
12	K	0	0	8	1,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH T01A	X99A B
13	K	0	0	9	2,500	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
14	K	0	1	0	2,500	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
15	K	0	1	1	2,500	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
16	K	0	1	3	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
17	K	0	1	4	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
18	K	0	1	5	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
19	K	0	1	6	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
20	K	0	1	7	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
21	K	0	1	8	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
22	K	0	1	9	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
23	K	0	2	0	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
24	K	0	2	1	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
25	K	0	2	2	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
26	K	0	2	3	2,500	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
27	K	0	2	4	2,500	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
28	K	0	2	5	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
29	K	0	2	6	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
30	K	0	2	7	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
31	K	0	2	8	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
32	K	0	2	9	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
33	K	0	3	0	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B



EPA I.D. Number (Enter from page 1)

Secondary ID Number (Enter from page 1)

I L D 0 0 0 6 0 8 4 7 1

## XIV. Description of Hazardous Wastes (Continued)

Line Number	A. EPA HAZARD WASTE NO. (Enter code)				B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (Enter code)	D. PROCESSES										
	(1) PROCESS CODES (Enter code)						(2) PROCESS DESCRIPTION (If a code is not entered in D(1))										
1	K	0	3	1	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
2	K	0	3	2	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
3	K	0	3	3	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
4	K	0	3	4	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
5	K	0	3	5	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
6	K	0	3	6	2,500	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
7	K	0	3	7	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
8	K	0	3	8	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
9	K	0	3	9	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
1 0	K	0	4	0	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
1 1	K	0	4	1	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
1 2	K	0	4	2	2,500	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
1 3	K	0	4	3	2,500	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
1 4	K	0	4	4	2,500	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
1 5	K	0	4	5	2,500	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
1 6	K	0	4	6	2,500	T	S	0	1	S	0	2	T	0	4	ABCEFGH TO1A	X99A B
1 7	K	0	4	7	2,500	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
1 8	K	0	4	8	2,500	T	S	0	1	S	0	2	T	0	4	ABCEFGH TO1A	X99A B
1 9	K	0	4	9	2,500	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
2 0	K	0	5	0	2,500	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
2 1	K	0	5	1	2,500	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
2 2	K	0	5	2	2,500	T	S	0	1	S	0	2	T	0	4	ABCEFGH TO1A	X99A B
2 3	K	0	6	0	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH TO1A	X99A B
2 4	K	0	6	1	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH TO 1A	X99A B
2 5	K	0	6	2	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH TO1A	X99A B
2 6	K	0	6	9	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH TO1A	X99A B
2 7	K	0	7	1	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
2 8	K	0	7	3	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
2 9	K	0	8	3	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
3 0	K	0	8	4	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
3 1	K	0	8	5	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
3 2	K	0	8	6	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH TO1A	X99A B
3 3	K	0	8	7	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH TO1A	X99A B

EPA I.D. Number (Enter from page 1)

Secondary ID Number (Enter from page 1)

I L D 0 0 0 6 0 8 4 7 1

## XIV. Description of Hazardous Wastes (Continued)

Line Number	A. EPA HAZARD WASTE NO. (Enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (Enter code)	D. PROCESSES									
				(1) PROCESS CODES (Enter code)					(2) PROCESS DESCRIPTION (If a code is not entered in D(1))				
1	K 0 8 8	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99A B
2	K 0 9 0	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99AB
3	K 0 9 1	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99AB
4	K 0 9 3	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99AB
5	K 0 9 4	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99A B
6	K 0 9 5	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99A B
7	K 0 9 6	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99A B
8	K 0 9 7	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99A B
9	K 0 9 8	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99A B
1 0	K 0 9 9	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99A B
1 1	K 1 0 0	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH TO1A X99AB
1 2	K 1 0 1	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99AB
1 3	K 1 0 2	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99AB
1 4	K 1 0 3	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99AB
1 5	K 1 0 4	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99AB
1 6	K 1 0 5	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99AB
1 7	K 1 0 6	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99AB
1 8	K 1 0 7	15,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99AB
1 9	K 1 0 8	15,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99AB
2 0	K 1 0 9	15,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99AB
2 1	K 1 1 0	15,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99AB
2 2	K 1 1 1	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99A B
2 3	K 1 1 2	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99AB
2 4	K 1 1 3	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99AB
2 5	K 1 1 4	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99AB
2 6	K 1 1 5	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99AB
2 7	K 1 1 6	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99AB
2 8	K 1 1 7	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99AB
2 9	K 1 1 8	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99AB
3 0	K 1 2 3	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99AB
3 1	K 1 2 4	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99AB
3 2	K 1 2 5	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99AB
3 3	K 1 2 6	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99AB

EPA I.D. Number (Enter from page 1)

Secondary ID Number (Enter from page 1)

I L D 0 0 0 6 0 8 4 7 1

## XIV. Description of Hazardous Wastes (Continued)

Line Number	A. EPA HAZARD WASTE NO. (Enter code)			B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (Enter code)	D. PROCESSES										
						(1) PROCESS CODES (Enter code)						(2) PROCESS DESCRIPTION (If a code is not entered in D(1))				
1	K	1	3 1	15,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
2	K	1	3 2	15,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
3	K	1	3 6	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
4	K	1	4 1	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
5	K	1	4 2	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
6	K	1	4 3	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
7	K	1	4 4	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
8	K	1	4 5	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
9	K	1	4 7	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
1 0	K	1	4 8	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
1 1	K	1	4 9	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
1 2	K	1	5 0	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
1 3	K	1	5 1	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
1 4	P	0	0 1	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
1 5	P	0	0 2	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
1 6	P	0	0 3	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
1 7	P	0	0 4	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
1 8	P	0	0 5	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
1 9	P	0	0 6	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
2 0	P	0	0 7	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
2 1	P	0	0 8	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
2 2	P	0	0 9	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
2 3	P	0	1 0	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
2 4	P	0	1 1	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
2 5	P	0	1 2	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
2 6	P	0	1 3	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
2 7	P	0	1 4	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
2 8	P	0	1 5	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
2 9	P	0	1 6	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
3 0	P	0	1 7	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
3 1	P	0	1 8	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
3 2	P	0	2 0	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
3 3	P	0	2 1	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B

EPA I.D. Number (Enter from page 1)

Secondary ID Number (Enter from page 1)

I L D 0 0 0 6 0 8 4 7 1

## XIV. Description of Hazardous Wastes (Continued)

Line Number	A. EPA HAZARD WASTE NO. (Enter code)				B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (Enter code)	D. PROCESSES											
							(1) PROCESS CODES (Enter code)								(2) PROCESS DESCRIPTION (If a code is not entered in D(1))			
1	P	0	2	2	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB	
2	P	0	2	3	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB	
3	P	0	2	4	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB	
4	P	0	2	6	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB	
5	P	0	2	7	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB	
6	P	0	2	8	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB	
7	P	0	2	9	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB	
8	P	0	3	0	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB	
9	P	0	3	1	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB	
10	P	0	3	3	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB	
11	P	0	3	4	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB	
12	P	0	3	6	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB	
13	P	0	3	7	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB	
14	P	0	3	8	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB	
15	P	0	3	9	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB	
16	P	0	4	0	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB	
17	P	0	4	1	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB	
18	P	0	4	2	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB	
19	P	0	4	3	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB	
20	P	0	4	4	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB	
21	P	0	4	5	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB	
22	P	0	4	6	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB	
23	P	0	4	7	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB	
24	P	0	4	8	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB	
25	P	0	4	9	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB	
26	P	0	5	0	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB	
27	P	0	5	1	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB	
28	P	0	5	4	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB	
29	P	0	5	6	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB	
30	P	0	5	7	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB	
31	P	0	5	8	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB	
32	P	0	5	9	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB	
33	P	0	6	0	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB	

EPA I.D. Number (Enter from page 1)

Secondary ID Number (Enter from page 1)

I L D 0 0 0 6 0 8 4 7 1

## XIV. Description of Hazardous Wastes (Continued)

Line Number	A. EPA HAZARD WASTE NO. (Enter code)				B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (Enter code)	D. PROCESSES										
							(1) PROCESS CODES (Enter code)						(2) PROCESS DESCRIPTION (If a code is not entered in D(1))				
1	P	0	6	2	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
2	P	0	6	3	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
3	P	0	6	4	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
4	P	0	6	5	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
5	P	0	6	6	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
6	P	0	6	7	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
7	P	0	6	8	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
8	P	0	6	9	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
9	P	0	7	0	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
1 0	P	0	7	1	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
1 1	P	0	7	2	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
1 2	P	0	7	3	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
1 3	P	0	7	4	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
1 4	P	0	7	5	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
1 5	P	0	7	6	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
1 6	P	0	7	7	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
1 7	P	0	7	8	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
1 8	P	0	8	1	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
1 9	P	0	8	2	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
2 0	P	0	8	4	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
2 1	P	0	8	5	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
2 2	P	0	8	7	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
2 3	P	0	8	8	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
2 4	P	0	8	9	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
2 5	P	0	9	2	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
2 6	P	0	9	3	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
2 7	P	0	9	4	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
2 8	P	0	9	5	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
2 9	P	0	9	6	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
3 0	P	0	9	7	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
3 1	P	0	9	8	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
3 2	P	0	9	9	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
3 3	P	1	0	1	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B

EPA I.D. Number (Enter from page 1)

Secondary ID Number (Enter from page 1)

I L D 0 0 0 6 0 8 4 7 1

## XIV. Description of Hazardous Wastes (Continued)

Line Number	A. EPA HAZARD WASTE NO. (Enter code)				B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (Enter code)	D. PROCESSES										
	(1) PROCESS CODES (Enter code)						(2) PROCESS DESCRIPTION (If a code is not entered in D(1))										
1	P	1	0	2	150	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB
2	P	1	0	3	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB
3	P	1	0	4	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB
4	P	1	0	5	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB
5	P	1	0	6	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB
6	P	1	0	8	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB
7	P	1	0	9	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB
8	P	1	1	0	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB
9	P	1	1	1	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB
10	P	1	1	2	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB
11	P	1	1	3	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB
12	P	1	1	4	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB
13	P	1	1	5	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB
14	P	1	1	6	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB
15	P	1	1	8	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB
16	P	1	1	9	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB
17	P	1	2	0	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB
18	P	1	2	1	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB
19	P	1	2	2	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB
20	P	1	2	3	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB
21	U	0	0	1	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB
22	U	0	0	2	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB
23	U	0	0	3	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB
24	U	0	0	4	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB
25	U	0	0	5	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB
26	U	0	0	6	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB
27	U	0	0	7	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB
28	U	0	0	8	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB
29	U	0	0	9	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB
30	U	0	1	0	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB
31	U	0	1	1	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB
32	U	0	1	2	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB
33	U	0	1	4	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99AB

EPA I.D. Number (Enter from page 1)

Secondary ID Number (Enter from page 1)

I L D 0 0 0 6 0 8 4 7 1

## XIV. Description of Hazardous Wastes (Continued)

Line Number	A. EPA HAZARD WASTE NO. (Enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (Enter code)	D. PROCESSES							
				(1) PROCESS CODES (Enter code)				(2) PROCESS DESCRIPTION (If a code is not entered in D(1))			
1	U 0 1 5	250	T	S	0	1	S	0	2	T	0 4
2	U 0 1 6	250	T	S	0	1	S	0	2	T	0 4
3	U 0 1 7	100	T	S	0	1	S	0	2	T	0 4
4	U 0 1 8	250	T	S	0	1	S	0	2	T	0 4
5	U 0 1 9	250	T	S	0	1	S	0	2	T	0 4
6	U 0 2 0	100	T	S	0	1	S	0	2	T	0 4
7	U 0 2 1	250	T	S	0	1	S	0	2	T	0 4
8	U 0 2 2	250	T	S	0	1	S	0	2	T	0 4
9	U 0 2 3	250	T	S	0	1	S	0	2	T	0 4
10	U 0 2 4	250	T	S	0	1	S	0	2	T	0 4
11	U 0 2 5	250	T	S	0	1	S	0	2	T	0 4
12	U 0 2 6	250	T	S	0	1	S	0	2	T	0 4
13	U 0 2 7	250	T	S	0	1	S	0	2	T	0 4
14	U 0 2 8	250	T	S	0	1	S	0	2	T	0 4
15	U 0 2 9	250	T	S	0	1	S	0	2	T	0 4
16	U 0 3 0	250	T	S	0	1	S	0	2	T	0 4
17	U 0 3 1	250	T	S	0	1	S	0	2	T	0 4
18	U 0 3 2	250	T	S	0	1	S	0	2	T	0 4
19	U 0 3 3	250	T	S	0	1	S	0	2	T	0 4
20	U 0 3 4	250	T	S	0	1	S	0	2	T	0 4
21	U 0 3 5	250	T	S	0	1	S	0	2	T	0 4
22	U 0 3 6	250	T	S	0	1	S	0	2	T	0 4
23	U 0 3 7	250	T	S	0	1	S	0	2	T	0 4
24	U 0 3 8	250	T	S	0	1	S	0	2	T	0 4
25	U 0 3 9	250	T	S	0	1	S	0	2	T	0 4
26	U 0 4 1	250	T	S	0	1	S	0	2	T	0 4
27	U 0 4 2	250	T	S	0	1	S	0	2	T	0 4
28	U 0 4 3	250	T	S	0	1	S	0	2	T	0 4
29	U 0 4 4	250	T	S	0	1	S	0	2	T	0 4
30	U 0 4 5	250	T	S	0	1	S	0	2	T	0 4
31	U 0 4 6	250	T	S	0	1	S	0	2	T	0 4
32	U 0 4 7	250	T	S	0	1	S	0	2	T	0 4
33	U 0 4 8	250	T	S	0	1	S	0	2	T	0 4



EPA I.D. Number (Enter from page 1)	Secondary ID Number (Enter from page 1)
ILD000608471	

## XIV. Description of Hazardous Wastes (Continued)

Line Number	A. EPA HAZARD WASTE NO. (Enter code)				B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (Enter code)	D. PROCESSES										
							(1) PROCESS CODES (Enter code)					(2) PROCESS DESCRIPTION (If a code is not entered in D(1))					
1	U	0	4	9	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
2	U	0	5	0	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
3	U	0	5	1	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
4	U	0	5	2	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
5	U	0	5	3	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
6	U	0	5	5	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
7	U	0	5	6	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
8	U	0	5	7	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
9	U	0	5	8	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
10	U	0	5	9	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
11	U	0	6	0	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
12	U	0	6	1	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
13	U	0	6	2	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
14	U	0	6	3	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
15	U	0	6	4	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
16	U	0	6	6	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
17	U	0	6	7	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
18	U	0	6	8	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
19	U	0	6	9	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
20	U	0	7	0	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
21	U	0	7	1	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
22	U	0	7	2	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
23	U	0	7	3	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
24	U	0	7	4	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
25	U	0	7	5	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
26	U	0	7	6	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
27	U	0	7	7	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
28	U	0	7	8	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
29	U	0	7	9	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
30	U	0	8	0	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
31	U	0	8	1	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
32	U	0	8	2	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
33	U	0	8	3	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B

EPA I.D. Number (Enter from page 1)	Secondary ID Number (Enter from page 1)
1 L D 0 0 0 6 0 8 4 7 1	

## XIV. Description of Hazardous Wastes (Continued)

Line Number	A. EPA HAZARD WASTE NO. (Enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (Enter code)	D. PROCESSES									
				(1) PROCESS CODES (Enter code)					(2) PROCESS DESCRIPTION (If a code is not entered in D(1))				
1	U 0 0 8 4	250	T	S 0 0 1	S 0 0 2	T 0 0 4			ABCEFGH	X99A B			
2	U 0 0 8 5	250	T	S 0 0 1	S 0 0 2	T 0 0 4			ABCEFGH	X99A B			
3	U 0 0 8 6	100	T	S 0 0 1	S 0 0 2	T 0 0 4			ABCEFGH	X99A B			
4	U 0 0 8 7	250	T	S 0 0 1	S 0 0 2	T 0 0 4			ABCEFGH	X99A B			
5	U 0 0 8 8	250	T	S 0 0 1	S 0 0 2	T 0 0 4			ABCEFGH	X99A B			
6	U 0 0 8 9	250	T	S 0 0 1	S 0 0 2	T 0 0 4			ABCEFGH	X99A B			
7	U 0 0 9 0	250	T	S 0 0 1	S 0 0 2	T 0 0 4			ABCEFGH	X99A B			
8	U 0 0 9 1	250	T	S 0 0 1	S 0 0 2	T 0 0 4			ABCEFGH	X99A B			
9	U 0 0 9 2	250	T	S 0 0 1	S 0 0 2	T 0 0 4			ABCEFGH	X99A B			
10	U 0 0 9 3	250	T	S 0 0 1	S 0 0 2	T 0 0 4			ABCEFGH	X99A B			
11	U 0 0 9 4	250	T	S 0 0 1	S 0 0 2	T 0 0 4			ABCEFGH	X99A B			
12	U 0 0 9 5	250	T	S 0 0 1	S 0 0 2	T 0 0 4			ABCEFGH	X99A B			
13	U 0 0 9 6	250	T	S 0 0 1	S 0 0 2	T 0 0 4			ABCEFGH	X99A B			
14	U 0 0 9 7	100	T	S 0 0 1	S 0 0 2	T 0 0 4			ABCEFGH	X99A B			
15	U 0 0 9 8	250	T	S 0 0 1	S 0 0 2	T 0 0 4			ABCEFGH	X99A B			
16	U 0 0 9 9	250	T	S 0 0 1	S 0 0 2	T 0 0 4			ABCEFGH	X99A B			
17	U 1 0 0 1	250	T	S 0 0 1	S 0 0 2	T 0 0 4			ABCEFGH	X99A B			
18	U 1 0 0 2	250	T	S 0 0 1	S 0 0 2	T 0 0 4			ABCEFGH	X99A B			
19	U 1 0 0 3	100	T	S 0 0 1	S 0 0 2	T 0 0 4			ABCEFGH	X99A B			
20	U 1 0 0 5	250	T	S 0 0 1	S 0 0 2	T 0 0 4			ABCEFGH	X99A B			
21	U 1 0 0 6	250	T	S 0 0 1	S 0 0 2	T 0 0 4			ABCEFGH	X99A B			
22	U 1 0 0 7	250	T	S 0 0 1	S 0 0 2	T 0 0 4			ABCEFGH	X99A B			
23	U 1 0 0 8	250	T	S 0 0 1	S 0 0 2	T 0 0 4			ABCEFGH	X99A B			
24	U 1 0 0 9	250	T	S 0 0 1	S 0 0 2	T 0 0 4			ABCEFGH	X99A B			
25	U 1 1 0 0	250	T	S 0 0 1	S 0 0 2	T 0 0 4			ABCEFGH	X99A B			
26	U 1 1 1 1	100	T	S 0 0 1	S 0 0 2	T 0 0 4			ABCEFGH	X99A B			
27	U 1 1 1 2	250	T	S 0 0 1	S 0 0 2	T 0 0 4			ABCEFGH	X99A B			
28	U 1 1 1 3	250	T	S 0 0 1	S 0 0 2	T 0 0 4			ABCEFGH	X99A B			
29	U 1 1 1 4	250	T	S 0 0 1	S 0 0 2	T 0 0 4			ABCEFGH	X99A B			
30	U 1 1 1 5	100	T	S 0 0 1	S 0 0 2	T 0 0 4			ABCEFGH	X99A B			
31	U 1 1 1 6	250	T	S 0 0 1	S 0 0 2	T 0 0 4			ABCEFGH	X99A B			
32	U 1 1 1 7	250	T	S 0 0 1	S 0 0 2	T 0 0 4			ABCEFGH	X99A B			
33	U 1 1 1 8	250	T	S 0 0 1	S 0 0 2	T 0 0 4			ABCEFGH	X99A B			

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Secondary ID Number (Enter from page 1)

I L D 0 0 0 6 0 8 4 7 1

## XIV. Description of Hazardous Wastes (Continued)

Line Number	A. EPA HAZARD WASTE NO. (Enter code)					B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (Enter code)	D. PROCESSES											
	(1) PROCESS CODES (Enter code)												(2) PROCESS DESCRIPTION (If a code is not entered in D(1))						
1	U	1	1	9	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B		
2	U	1	2	0	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B		
3	U	1	2	1	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B		
4	U	1	2	2	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B		
5	U	1	2	3	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B		
6	U	1	2	4	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B		
7	U	1	2	5	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B		
8	U	1	2	6	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B		
9	U	1	2	7	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B		
10	U	1	2	8	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B		
11	U	1	2	9	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B		
12	U	1	3	0	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B		
13	U	1	3	1	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B		
14	U	1	3	2	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B		
15	U	1	3	3	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B		
16	U	1	3	4	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B		
17	U	1	3	5	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B		
18	U	1	3	6	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B		
19	U	1	3	7	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B		
20	U	1	3	8	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B		
21	U	1	4	0	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B		
22	U	1	4	1	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B		
23	U	1	4	2	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B		
24	U	1	4	3	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B		
25	U	1	4	4	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B		
26	U	1	4	5	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B		
27	U	1	4	6	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B		
28	U	1	4	7	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B		
29	U	1	4	8	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B		
30	U	1	4	9	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B		
31	U	1	5	0	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B		
32	U	1	5	1	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B		
33	U	1	5	2	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B		

EPA I.D. Number (Enter from page 1)

Secondary ID Number (Enter from page 1)

I L D 0 0 0 6 0 8 4 7 1

## XIV. Description of Hazardous Wastes (Continued)

Line Number	A. EPA HAZARD WASTE NO. (Enter code)			B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (Enter code)	D. PROCESSES										(2) PROCESS DESCRIPTION (If a code is not entered in D(1))	
						(1) PROCESS CODES (Enter code)											
1	U	1	5	3	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
2	U	1	5	4	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
3	U	1	5	5	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
4	U	1	5	6	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
5	U	1	5	7	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
6	U	1	5	8	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
7	U	1	5	9	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
8	U	1	6	0	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
9	U	1	6	1	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
10	U	1	6	2	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
11	U	1	6	3	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
12	U	1	6	4	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
13	U	1	6	5	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
14	U	1	6	6	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
15	U	1	6	7	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
16	U	1	6	8	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
17	U	1	6	9	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
18	U	1	7	0	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
19	U	1	7	1	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
20	U	1	7	2	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
21	U	1	7	3	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
22	U	1	7	4	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
23	U	1	7	6	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
24	U	1	7	7	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
25	U	1	7	8	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
26	U	1	7	9	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
27	U	1	8	0	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
28	U	1	8	1	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
29	U	1	8	2	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
30	U	1	8	3	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
31	U	1	8	4	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
32	U	1	8	5	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
33	U	1	8	6	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B

EPA I.D. Number (Enter from page 1)	Secondary ID Number (Enter from page 1)
I L D 0 0 0 6 0 8 4 7 1	

## XIV. Description of Hazardous Wastes (Continued)

Line Number	A. EPA HAZARD WASTE NO. (Enter code)				B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (Enter code)	D. PROCESSES											
	(1) PROCESS CODES (Enter code)						(2) PROCESS DESCRIPTION (If a code is not entered in D(1))											
	1	U	1	8	7	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
	2	U	1	8	8	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
	3	U	1	8	9	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
	4	U	1	9	0	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
	5	U	1	9	1	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
	6	U	1	9	2	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
	7	U	1	9	3	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
	8	U	1	9	4	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
	9	U	1	9	6	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
1	0	U	1	9	7	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
1	1	U	2	0	0	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
1	2	U	2	0	1	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
1	3	U	2	0	2	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
1	4	U	2	0	3	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
1	5	U	2	0	4	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
1	6	U	2	0	5	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
1	7	U	2	0	6	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
1	8	U	2	0	7	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
1	9	U	2	0	8	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
2	0	U	2	0	9	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
2	1	U	2	1	0	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
2	2	U	2	1	1	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
2	3	U	2	1	3	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
2	4	U	2	1	4	100	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
2	5	U	2	1	5	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
2	6	U	2	1	6	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
2	7	U	2	1	7	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
2	8	U	2	1	8	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
2	9	U	2	1	9	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
3	0	U	2	2	0	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
3	1	U	2	2	1	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
3	2	U	2	2	2	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B
3	3	U	2	2	3	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH	X99A B

EPA I.D. Number (Enter from page 1)							Secondary ID Number (Enter from page 1)									
I L D 0 0 0 6 0 8 4 7 1																
XIV. Description of Hazardous Wastes (Continued)																
Line Number	A. EPA HAZARD WASTE NO. (Enter code)				B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (Enter code)	D. PROCESSES									
							(1) PROCESS CODES (Enter code)						(2) PROCESS DESCRIPTION (If a code is not entered in D(1))			
1	U	2	2	5	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99A B
2	U	2	2	6	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99A B
3	U	2	2	7	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99A B
4	U	2	2	8	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99A B
5	U	2	3	4	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99A B
6	U	2	3	5	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99A B
7	U	2	3	6	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99A B
8	U	2	3	7	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99A B
9	U	2	3	8	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99A B
10	U	2	3	9	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99A B
11	U	2	4	0	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99A B
12	U	2	4	3	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99A B
13	U	2	4	4	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99A B
14	U	2	4	6	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99A B
15	U	2	4	7	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99A B
16	U	2	4	8	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99A B
17	U	2	4	9	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99A B
18	U	3	2	8	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99A B
19	U	3	5	3	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99A B
20	U	3	5	9	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99A B
21	F	0	0	2	7,500	T	S	0	1	S	0	2	T	0	4	ABCEFGH T01A X99A B
22	K	0	6	4	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99A B
23	K	0	6	5	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99A B
24	K	0	6	6	250	T	S	0	1	S	0	2	T	0	4	ABCEFGH X99A B
25	K	1	5	6	250	T	S	0	1	S	0	2	T	0	4	ABEFGH X99A B
26	K	1	5	7	250	T	S	0	1	S	0	2	T	0	4	ABEFGH X99A B
27	K	1	5	8	250	T	S	0	1	S	0	2	T	0	4	ABEFGH X99A B
28	K	1	5	9	250	T	S	0	1	S	0	2	T	0	4	ABEFGH X99A B
29	K	1	6	0	250	T	S	0	1	S	0	2	T	0	4	ABEFGH X99A B
30	K	1	6	1	250	T	S	0	1	S	0	2	T	0	4	ABEFGH X99A B
31	U	2	7	1	250	T	S	0	1	S	0	2	T	0	4	ABEFGH X99B
32	U	2	7	7	250	T	S	0	1	S	0	2	T	0	4	ABEFGH X99B
33	U	2	7	8	250	T	S	0	1	S	0	2	T	0	4	ABEFGH X99B

EPA I.D. Number (Enter from page 1)

Secondary ID Number (Enter from page 1)

I L D 0 0 0 6 0 8 4 7 1

## XIV. Description of Hazardous Wastes (Continued)

Line Number	A. EPA HAZARD WASTE NO. (Enter code)				B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (Enter code)	D. PROCESSES											
	(1) PROCESS CODES (Enter code)								(2) PROCESS DESCRIPTION (If a code is not entered in D(1))									
	1	U	2	7	9	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B
	2	U	2	8	0	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B
	3	U	3	6	4	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B
	4	U	3	6	5	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B
	5	U	3	6	6	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B
	6	U	3	6	7	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B
	7	U	3	7	2	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B
	8	U	3	7	3	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B
	9	U	3	7	5	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B
1	0	U	3	7	6	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B
1	1	U	3	7	7	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B
1	2	U	3	7	8	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B
1	3	U	3	7	9	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B
1	4	U	3	8	1	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B
1	5	U	3	8	2	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B
1	6	U	3	8	3	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B
1	7	U	3	8	4	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B
1	8	U	3	8	5	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B
1	9	U	3	8	6	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B
2	0	U	3	8	7	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B
2	1	U	3	8	9	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B
2	2	U	3	9	0	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B
2	3	U	3	9	1	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B
2	4	U	3	9	2	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B
2	5	U	3	9	3	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B
2	6	U	3	9	4	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B
2	7	U	3	9	5	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B
2	8	U	3	9	6	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B
2	9	U	4	0	0	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B
3	0	U	4	0	1	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B
3	1	U	4	0	2	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B
3	2	U	4	0	3	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B
3	3	U	4	0	4	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B



EPA I.D. Number (Enter from page 1)

Secondary ID Number (Enter from page 1)

I L D 0 0 0 6 0 8 4 7 1

## XIV. Description of Hazardous Wastes (Continued)

Line Number	A. EPA HAZARD WASTE NO. (Enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (Enter code)	D. PROCESSES											
				(1) PROCESS CODES (Enter code)								(2) PROCESS DESCRIPTION (If a code is not entered in D(1))			
1	U 4 0 7	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B	
2	U 4 0 9	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B	
3	U 4 1 0	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B	
4	U 4 1 1	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B	
5	P 1 2 7	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B	
6	P 1 2 8	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B	
7	P 1 8 5	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B	
8	P 1 8 8	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B	
9	P 1 8 9	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B	
10	P 1 9 0	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B	
11	P 1 9 1	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B	
12	P 1 9 2	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B	
13	P 1 9 4	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B	
14	P 1 9 6	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B	
15	P 1 9 7	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B	
16	P 1 9 8	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B	
17	P 1 9 9	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B	
18	P 2 0 1	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B	
19	P 2 0 2	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B	
20	P 2 0 3	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B	
21	P 2 0 4	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B	
22	P 2 0 5	250	T	S	0	1	S	0	2	T	0	4	ABEFGH	X99B	
23	K 1 4 0	15,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH	T01A X99B	
24	U 4 0 8	15,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH	T01A X99B	
25	K 1 6 9	15,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH	T01A X99B	
26	K 1 7 0	15,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH	T01A X99B	
27	K 1 7 1	15,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH	T01A X99B	
28	K 1 7 2	15,000	T	S	0	1	S	0	2	T	0	4	ABCEFGH	T01A X99B	
29															
30															
31															
32															
33															

EPA I.D. Number (Enter from page 1)

IL D000608471

Secondary ID Number (Enter from page 1)

## XV. Map

Attach to this application a topographic map, or other equivalent map, of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in this map area. See instructions for precise requirements.

## XVI. Facility Drawing

All existing facilities must include a scale drawing of the facility (see instructions for more detail).

## XVII. Photographs

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail).

## XVIII. Certification(s)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Owner Signature

Date Signed

Name and Official Title (Type or print)

Anthony G. Ianello, Executive Director, IL International Port District - Owner

Owner Signature

Date Signed

Name and Official Title (Type or print)

Operator Signature

Date Signed

Name and Official Title (Type or print)

Stephen H. Moynihan, Senior Vice President, Clean Harbors Services, Inc.

Operator Signature

Date Signed

Name and Official Title (Type or print)

## XIX. Comments

See Attached Sheet

Note: Mail completed form to the appropriate EPA Regional or State Office. (Refer to instructions for more information)

RCRA PART A FORM  
ADDITIONAL INFORMATION

Section VIII. Facility Owner

A. Name of Facility's Legal Owner

CHSI is the owner/operator of the hazardous waste facility. The land on which the facility is located is owned by the Illinois International Port District, a government entity.

Section XII. Process Codes and Design Capacity

Line 05. Disposal in Surface Impoundments (D83)

CHSI notes that the four (4) surface impoundments identified by this entry have been certified as closed by the IL EPA. The impoundments no longer accept hazardous waste, and currently operate under an approved Post Closure management plan. A list of the waste codes which were disposed in the impoundments is included in Appendix D-30 of the approved RCRA Part B Application.

Section XIII. Additional Processes

Line 11. T04E - Treatment of D002 Liquids in Containers and Tanks

Treatment of D002 (Corrosive) liquid hazardous waste in containers and tanks by the commingling/mixing of compatible waste streams to adjust pH value. Process design capacity is 416,075 gallons per day in all tank or container systems at the facility.

Line 12. T04F - Treatment of Organic Peroxides in Containers

Treatment of organic peroxide hazardous waste in containers through the addition of water. Process design capacity is 5,000 gallons per day in any container at the facility.

Line 13. T04G - Treatment of Acid Cyanides in Containers

Treatment of acid cyanide hazardous waste in containers through pH adjustment using sodium hydroxide or other alkaline materials. Process design capacity is 5,000 gallons per day in any container at the facility.

Line 14. T04H - Treatment of Hazardous Waste in Containers and Tanks  
Using Phase Separation

Treatment of hazardous waste in containers and tanks by phase separation using physical (e.g., gravity separation, filtration) and chemical (e.g., addition of demulsifiers) techniques. Process design capacity is 416,075 gallons per day in all tank or container systems at the facility.

Line 21. X99A - Consolidation of Hazardous Waste using a Compactor

Consolidation of hazardous waste paint and paint-related material contained in small metal and glass containers by processing through a can and glass compactor. Process design capacity of the unit is 7,000 pounds per day of cans of paint and paint-related material.

Line 22. X99B - Hazardous waste shredding system

Shredding of hazardous waste in containers. Process design capacity is 48,000 pounds per hour.

Section XIV. Description of Hazardous Waste

CHSI notes that Process Code "T01A" in Column D(2) refers to the Listed Waste Treatment System identified on Line 06 in Section XII.

CHSI also notes that Process Codes "T04A" through "T04H" refer to the various container and/or tank treatment processes described in Lines 01 through 14 in Section XIII.

Amended

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5  
HAZARDOUS WASTE MANAGEMENT PERMIT

Name of Facility: Clean Harbors of Chicago, Incorporated  
Name of Owner: Illinois International Port District  
Name of Operator: Clean Harbors of Chicago, Incorporated  
Facility Location: Street Address: 11800 South Stony Island Avenue  
City, State: Chicago, Illinois  
EPA Identification Number: ILD000608471  
Effective Date: November 4, 1993  
Expiration Date: November 4, 2003

**Authorized Activities:**

Pursuant to the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA) of 1976, and the Hazardous and Solid Waste Amendments (HSWA) of 1984, (42 U.S.C. §6901, et seq.), and regulations promulgated thereunder by the United States Environmental Protection Agency (U.S. EPA) (codified in Title 40 of the Code of Federal Regulations (40 CFR)), Federal permit conditions (hereinafter called the permit) of the RCRA permit are issued to the Illinois International Port District, and to Clean Harbors of Chicago, Incorporated (hereinafter called the Permittees), for the facility located in Chicago, Illinois.

The RCRA permit contains both the effective Federal permit conditions (contained herein) and the effective State permit conditions issued by the State of Illinois RCRA program authorized under 40 CFR Part 271 (hereinafter called the State permit). The RCRA permit authorizes the Permittees to conduct hazardous waste management activities as specified in the RCRA permit.

**Permit Approval:**

On January 31, 1986, the State of Illinois received final authorization pursuant to Section 3006 of RCRA, 42 U.S.C. §6926, and 40 CFR Part 271, to administer the pre-HSWA RCRA hazardous waste program. On April 30, 1990, the State of Illinois also received authorization to administer certain specific portions of the hazardous waste program required under HSWA. Because the State of Illinois has not yet received authorization to administer the entire hazardous waste program requirements of RCRA, certain permit conditions must be issued by the U.S. EPA to address these requirements. These additional conditions are contained in this permit.

-2-

The Permittees must comply with all terms and conditions of this permit. This permit consists of the conditions contained herein (including those in any attachments) and the applicable regulations contained in 40 CFR Parts 260, 261, 262, 264, 266, 268, 270, and 124, and applicable provisions of HSWA.

This permit is based on the assumption that the information submitted in the permit application, dated February 25, 1983, and in any subsequent amendments (hereinafter referred to as the application), is accurate. Any inaccuracies found in this information may be grounds for the termination, revocation and reissuance, or modification of this permit (see 40 CFR 270.41, 270.42 and 270.43) and potential enforcement action. The Permittees must inform the U.S. EPA of any deviation from or changes in the information in the submitted application as soon as the Permittees become aware of such deviation or changes.

**Opportunity to Appeal:**

Petitions for review must be submitted within 30 days after service of notice of the final permit decision. Any person who filed comments on the draft permit or participated in the public hearing may petition the Environmental Appeals Board to review any condition of the permit decision. Any person who failed to file comments or failed to participate in the public hearing on the draft permit may petition the Environmental Appeals Board to review only to the extent of the changes from the draft to the final permit decision. The procedures for permit appeals are found in 40 CFR 124.19.

**Effective Date:**

This permit is effective as of the date specified on the previous page, unless a review is requested under 40 CFR 124.19. The permit shall remain in effect until the expiration date, unless revoked and reissued, or terminated (40 CFR 270.41 and 270.43), or continued in accordance with 40 CFR 270.51.

By: \_\_\_\_\_

Norman R. Niedergang  
Associate Division Director  
Office of RCRA  
Waste Management Division

Date: \_\_\_\_\_

9/27/93

**§ 124.19 Appeal of RCRA, UIC, and PSD permits.**

(a) Within 30 days after a RCRA, UIC, or PSD final permit decision (or a decision under § 270.29 to deny a permit for the active life of a RCRA hazardous waste management facility or unit) has been issued under § 124.15, any person who filed comments on that draft permit or participated in the public hearing may petition the Environmental Appeals Board to review any condition of the permit decision. Any person who failed to file comments or failed to participate in the public hearing on the draft permit may petition for administrative review only to the extent of the changes from the draft to the final permit decision. The 30-day period within which a person may request review under this section begins with the service of notice of the Regional Administrator's action unless a later date is specified in that notice. The petition shall include a statement of the reasons supporting that review, including a dem-

onstration that any issues being raised were raised during the public comment period (including any public hearing) to the extent required by these regulations and when appropriate, a showing that the condition in question is based on:

(1) A finding of fact or conclusion of law which is clearly erroneous, or

(2) An exercise of discretion or an important policy consideration which the Environmental Appeals Board should, in its discretion, review.

(b) The Environmental Appeals Board may also decide on its initiative to review any condition of any RCRA, UIC, or PSD permit issued under this part. The Environmental Appeals Board must act under this paragraph within 30 days of the service date of notice of the Regional Administrator's action.

(c) Within a reasonable time following the filing of the petition for review, the Environmental Appeals Board shall issue an order granting or denying the petition for review. To the extent review is denied, the conditions of the final permit decision become final agency action. Public notice of any grant of review by the Environmental Appeals Board under paragraph (a) or (b) of this section shall be given as provided in § 124.10. Public notice shall set forth a briefing schedule for the appeal and shall state that any interested person may file an amicus brief. Notice of denial of review shall be sent only to the person(s) requesting review.

(d) The Environmental Appeals Board may defer consideration of an appeal of a RCRA or UIC permit under this section until the completion of formal proceedings under subpart E or F relating to an NPDES permit issued to the same facility or activity upon concluding that:

(1) The NPDES permit is likely to raise issues relevant to a decision of the RCRA or UIC appeals;

(2) The NPDES permit is likely to be appealed; and

(3) Either: (i) The interests of both the facility or activity and the public are not likely to be materially adversely affected by the deferral; or

(ii) Any adverse effect is outweighed by the benefits likely to result from a consolidated decision on appeal.

(e) A petition to the Environmental Appeals Board under paragraph (a) of this section is, under 5 U.S.C. 704, a prerequisite to the seeking of judicial review of the final agency action.

(f)(1) For purposes of judicial review under the appropriate Act, final agency action occurs when a final RCRA, UIC, or PSD permit is issued or denied by EPA and agency review procedures are exhausted. A final permit decision shall be issued by the Regional Administrator:

(i) When the Environmental Appeals Board issues notice to the parties that review has been denied;

(ii) When the Environmental Appeals Board issues a decision on the merits of the appeal and the decision does not include a remand of the proceedings; or

(iii) Upon the completion of remand proceedings if the proceedings are remanded, unless the Environmental Appeals Board's remand order specifically provides that appeal of the remand decision will be required to exhaust administrative remedies.

(2) Notice of any final agency action regarding a PSD permit shall promptly be published in the FEDERAL REGISTER.

(g) Motions to reconsider a final order shall be filed within ten (10) days after service of the final order. Every such motion must set forth the matters claimed to have been erroneously decided and the nature of the alleged errors. Motions for reconsideration under this provision shall be directed to, and decided by, the Environmental Appeals Board. Motions for reconsideration directed to the administrator, rather than to the Environmental Appeals Board, will not be considered, except in cases that the Environmental Appeals Board has referred to the Administrator pursuant to § 124.2 and in which the Administrator has issued the final order. A motion for reconsideration shall not stay the effective date of the final order unless specifically so ordered by the Environmental Appeals Board.



ILD000608471

Clean Harbors of Chicago, Incorporated  
Chicago, Illinois

PERMIT INDEX

PERMIT CONDITIONS:

- I. Standard Conditions
- II. Land Disposal Requirements
- III. Toxicity Characteristic and Additional Wastes
- IV. Air Emission Standards
- V. Schedule of Compliance

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## PERMIT CONDITIONS

(Note: The regulatory citations in parentheses are incorporated by reference.)

### I. STANDARD CONDITIONS

#### A. EFFECT OF PERMIT (40 CFR 270.4 and 270.30(g))

The Permittees are allowed to manage hazardous waste in accordance with the conditions of the RCRA permit. Any management of hazardous waste not authorized in the RCRA permit is prohibited.

Compliance with the RCRA permit during its term constitutes compliance, for the purposes of enforcement, with Subtitle C of RCRA, except for those requirements not included in the permit which become effective by statute, or which are promulgated under 40 CFR Part 268, restricting the placement of hazardous waste in or on the land. Issuance of this permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of State or local law or regulations. Compliance with the terms of this permit does not constitute a defense to any order issued or any action brought under Sections 3008(a), 3008(h), 3013, or 7003 of RCRA; Sections 104, 106(a), or 107 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (42 U.S.C. §9601 et seq., commonly known as CERCLA); or any other law providing for protection of public health or the environment.

#### B. PERMIT ACTIONS (40 CFR 270.30(f))

This permit may be modified, revoked and reissued, or terminated for cause as specified in 40 CFR 270.41, 270.42, and 270.43. This permit may also be reviewed and modified by the U.S. EPA, consistent with 40 CFR 270.41, to include any terms and conditions determined necessary to protect human health and the environment pursuant to Section 3005(c)(3) of RCRA. The filing of a request for a permit modification, revocation and reissuance, or termination, or the notification of planned changes, or anticipated noncompliance on the part of the Permittees does not stay the applicability or enforceability of any permit condition. The Permittees shall not perform any construction associated with a Class 3 modification request until such modification request is approved and the permit modification becomes effective.

#### C. SEVERABILITY (40 CFR 124.16)

The provisions of this permit are severable, and if any provision of this permit, or if the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

ILD000608471  
Page 2 of 10**D. DUTIES AND REQUIREMENTS****1. Duty to Comply. (40 CFR 270.30(a))**

The Permittees shall comply with all conditions of this permit, except to the extent and for the duration such noncompliance is authorized by an emergency permit (See 40 CFR 270.61). Any permit noncompliance, other than noncompliance authorized by an emergency permit, constitutes a violation of RCRA and HSWA and is grounds for enforcement action, permit termination, revocation and reissuance, modification, denial of a permit renewal application, or other appropriate action.

**2. Duty to Reapply. (40 CFR 270.30(b) and 270.10(h))**

The Permittees shall submit a complete application for a new permit at least 180 days before this permit expires unless: a) the Permittees no longer wish to operate a hazardous waste management facility; b) the Permittees are no longer required to have a RCRA permit; or c) permission for a later date has been granted by the Regional Administrator. The Regional Administrator shall not grant permission for applications to be submitted later than the expiration date of the existing permit.

**3. Permit Expiration. (40 CFR 270.13, 270.14, 270.50, and 270.51)**

This permit and all conditions herein shall be effective for a fixed term not to exceed 10 years, and will remain in effect beyond the permit's expiration date only if the Permittees have submitted a timely, complete application (per 40 CFR 270.10 and applicable sections of 270.14 through 270.29): a) to both the U.S. EPA and the State; and b) through no fault of the Permittees, the Regional Administrator and the State have not issued a new permit, as set forth in 40 CFR 270.51.

**4. Need to Halt or Reduce Activity Not a Defense. (40 CFR 270.30(c))**

It shall not be a defense for the Permittees in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

**5. Duty to Mitigate. (40 CFR 270.30(d))**

In the event of releases or noncompliance with the permit, the Permittees shall take all reasonable steps to minimize releases to the environment and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health and the environment.

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6. Proper Operation and Maintenance. (40 CFR 270.30(e))

The Permittees shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittees to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality control/quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

7. Duty to Provide Information. (40 CFR 270.30(h) and 264.74)

The Permittees shall furnish to the Regional Administrator, within the time designated by the Regional Administrator, any relevant information which the Regional Administrator may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The Permittees shall also furnish to the Regional Administrator, upon request, copies of records required to be kept by this permit.

8. Inspection and Entry. (40 CFR 270.30(i))

The Permittees shall allow the Regional Administrator, or an authorized representative, upon the presentation of credentials and other documents as may be required by law to:

- a. Enter at reasonable times upon the Permittees' premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
- d. Sample or monitor, at reasonable times, for the purposes of assuring permit compliance, or as otherwise authorized by RCRA, any substances or parameters at any location.

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9. Monitoring and Recordkeeping. (40 CFR 270.30(j), 270.31, 264.73, and 264.74)

The Permittees shall retain all reports, records, or other documents, required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the reports, records or other documents. These periods may be extended by request of the Regional Administrator at any time and are automatically extended during the course of any unresolved enforcement action regarding this facility.

10. Reporting Planned Changes. (40 CFR 270.30(1)(1))

The Permittees shall give notice to the Regional Administrator of any planned physical alterations or additions to the permitted facility, as soon as possible, and at least 30 days before construction of such alteration or addition is commenced.

11. Anticipated Noncompliance. (40 CFR 270.30(1)(2))

The Permittees shall give advance notice to the Regional Administrator of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. Such notice does not constitute a waiver of the Permittees' duty to comply with permit requirements.

12. Transfer of Permits. (40 CFR 270.30(1)(3), 270.40(a), and 264.12(c))

This permit may be transferred by the Permittees to a new owner or operator only after providing notice to the Regional Administrator and only if the permit is modified, or revoked and reissued, pursuant to 40 CFR 270.40(b), 270.41(b)(2), or 270.42(a). Before transferring ownership or operation of the facility during its operating life, the Permittees shall notify the new owner or operator in writing of the requirements of 40 CFR Parts 264, 268, and 270 (including all applicable corrective action requirements), and shall provide a copy of the RCRA permit to the new owner or operator.

13. Compliance Schedules. (40 CFR 270.30(1)(5) and 270.33)

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted to the Regional Administrator no later than 14 days following each scheduled date.

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14. Twenty-four Hour Reporting. (40 CFR 270.30(1)(6) and 270.33)

The Permittees shall report to the Regional Administrator any noncompliance with this permit which may endanger human health or the environment. Any such information shall be reported orally within 24 hours from the time the Permittees become aware of the circumstances. This report shall include the following:

- a. Information concerning the release of any hazardous waste which may endanger public drinking water supplies; and
- b. Information concerning the release or discharge of any hazardous waste, or of a fire or explosion at the facility, which could threaten the environment or human health outside the facility. The description of the occurrence and its cause shall include:
  - (1) Name, address, and telephone number of the owner or operator;
  - (2) Name, address, and telephone number of the facility;
  - (3) Date, time, and type of incident;
  - (4) Name and quantity of material(s) involved;
  - (5) The extent of injuries, if any;
  - (6) An assessment of actual or potential hazard to the environment and human health outside the facility, where this is applicable; and
  - (7) Estimated quantity and disposition of recovered material that resulted from the incident.

A written submission shall also be provided within 5 days of the time the Permittees become aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period(s) of noncompliance (including exact dates and times); steps taken to minimize impact on the environment; whether the noncompliance has been corrected, and if not, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate and prevent recurrence of the noncompliance. The Permittees need not comply with the 5-day written notice requirement if the Regional Administrator waives the requirement. Upon waiver of the 5-day requirement, the Permittees shall submit a written report within 15 days of the time the Permittees become aware of the circumstances.

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15. Other Noncompliance. (40 CFR 270.30(1)(10))

The Permittees shall report all other instances of noncompliance not otherwise required to be reported above within 15 days of when the Permittees become aware of the noncompliance. The reports shall contain the information listed in Condition I.D.14.

16. Other Information. (40 CFR 270.30(1)(11))

Whenever the Permittees become aware that they failed to submit any relevant facts, or submitted incorrect information to the Regional Administrator in the permit application or in any reports, records, or other documentation provided to the Regional Administrator, the Permittees shall promptly submit such facts or information.

17. Submittal of Reports or Other Information. (40 CFR 270.30(1)(7), (8), and (9), and 270.31).

All reports or other information required to be submitted pursuant to this permit shall be sent to:

RCRA Permitting Branch, HRP-8J  
Waste Management Division  
U.S. EPA, Region 5  
77 West Jackson Boulevard  
Chicago, Illinois 60604-3590

Attention: Illinois Section

18. All other requirements contained in RCRA, as amended, and in 40 CFR 270.30 not set forth herein are hereby fully incorporated in this permit.E. SIGNATORY REQUIREMENT (40 CFR 270.30(k))

All reports or other information submitted to or requested by the Regional Administrator, his designee, or authorized representative, shall be signed and certified as required by 40 CFR 270.11.

F. CONFIDENTIAL INFORMATION

In accordance with 40 CFR 270.12 and 40 CFR Part 2, Subpart B, any information submitted to the U.S. EPA pursuant to this permit may be claimed as confidential by the submitter. Any such claim must be asserted at the time of submission in the manner prescribed on the application form or instructions, or, in the case of other submissions, by marking the words "Confidential Business Information" on each page containing such information.

If no claim is made at time of submission, the U.S. EPA may make the information available to the public without further notice. If a claim is



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asserted, the information will be treated in accordance with the procedures in 40 CFR Part 2.

G. DOCUMENTS TO BE MAINTAINED AT THE FACILITY

The Permittees shall maintain at the facility, until closure is completed and certified by an independent registered professional engineer, all items required by 40 CFR 264.73, including the following documents and all amendments, revisions, and modifications to these documents:

1. Waste Analysis Plan, as required by 40 CFR 264.13 and this permit;
2. Operating Record, as required by 40 CFR 264.73 and this permit;
3. Notifications from generators accompanying each incoming shipment of wastes subject to 40 CFR Part 268, Subtitle C, that specify treatment standards, as required by 40 CFR 264.73, 268.7, and this permit; and
4. Records regarding closed-vent systems and control devices and/or equipment leaks as required by 40 CFR 264.1035, 264.1064, and 264.73, and Condition IV.C. of this permit.

II. LAND DISPOSAL REQUIREMENTS

A. GENERAL CONDITIONS

1. The Permittees shall comply with all the applicable self-implementing requirements of 40 CFR Part 268 and all applicable land disposal requirements which become effective by statute (Section 3004 of RCRA).
2. A mixture of any restricted waste with nonrestricted waste(s) is a restricted waste under 40 CFR Part 268.
3. The Permittees shall not in any way dilute a restricted waste or the residual from treatment of a restricted waste as a substitute for adequate treatment to achieve compliance with 40 CFR Part 268, Subpart D, to circumvent the effective date of a prohibition in 40 CFR Part 268, Subpart C, to otherwise avoid a prohibition in 40 CFR Part 268, Subpart C, or to circumvent a land disposal prohibition imposed by Section 3004 of RCRA.
4. The Permittees shall prepare and maintain a current list of the hazardous waste codes handled by the facility that are identified in 40 CFR 268, Subparts B and C. The list shall include all waste codes handled by the facility, and any associated treatment standards, and shall be updated through the inclusion of new treatment standards, as promulgated or amended. This list shall be provided to the U.S. EPA representatives, or their designees, upon request.

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**B. TESTING AND RELATED REQUIREMENTS**

1. The Permittees must test, in accordance with 40 CFR 268.7(a), any waste generated at the facility, or use knowledge of the waste, to determine if the waste is restricted from land disposal.
2. For restricted wastes with treatment standards expressed as concentrations in the waste extract, as specified in 40 CFR 268.41, the Permittees shall test the wastes or waste residues, or extracts of such residues developed using the test methods described in Appendix II of 40 CFR Part 261 (Toxicity Characteristic Leaching Procedure, or TCLP) to assure that the wastes or waste treatment residues or extracts meet the applicable treatment standards of 40 CFR Part 268, Subpart D. Such testing shall be performed as required by 40 CFR 264.13.
3. A restricted waste for which a treatment technology is specified under 40 CFR 268.42(a) may be land disposed after it is treated using that specified technology or an equivalent treatment method approved by the Administrator under the procedures set forth in 40 CFR 268.42(b).
4. For restricted wastes with treatment standards expressed as concentrations in the waste, as specified in 40 CFR 268.43, the Permittees shall test the wastes or treatment residues (not extracts of such residues) to assure that the wastes or waste treatment residues meet the applicable treatment standards of 40 CFR Part 268, Subpart D. Such testing shall be performed as required by 40 CFR 264.13.
5. The Permittees shall comply with all the applicable notification, certification, and recordkeeping requirements described in 40 CFR 268.7(a) and (b).

**C. STORAGE PROHIBITIONS**

1. The Permittees shall comply with all the applicable prohibitions on storage of restricted wastes specified in 40 CFR Part 268, Subpart E.
2. Except as otherwise provided in 40 CFR 268.50, the Permittees may store restricted wastes in tanks and containers solely for the purpose of the accumulation of such quantities of hazardous wastes as necessary to facilitate proper recovery, treatment, or disposal provided that:
  - a. Each container is clearly marked to identify its contents and the date each period of accumulation begins; and
  - b. Each tank is clearly marked with a description of its contents, the quantity of each hazardous waste received, and the date each period of accumulation begins, or such information for each tank is recorded and maintained in the operating record at that facility.

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3. The Permittees may store restricted wastes for up to 1 year unless the U.S. EPA or its authorized agent can demonstrate that such storage was not solely for the purpose of accumulating such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment or disposal.
4. The Permittees may store restricted wastes beyond 1 year; however, the Permittees bear the burden of proving that such storage was solely for the purpose of accumulating such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment or disposal.
5. The Permittees shall not store any liquid hazardous waste containing polychlorinated biphenyls (PCBs) at concentrations greater than or equal to 50 ppm unless the waste is stored in a storage facility that meets the requirements of 40 CFR 761.65(b). This waste must be removed from storage and treated or disposed as required by 40 CFR Part 268 within 1 year of the date when such wastes are first put into storage. Condition II.C.4. above, that allows storage for over 1 year with specified demonstration, does not apply to PCB wastes prohibited under 40 CFR 268.32.

### III. TOXICITY CHARACTERISTIC AND ADDITIONAL WASTES

#### A. WASTE IDENTIFICATION

The Permittees may store and/or treat the following wastes in the tank and container storage areas identified in the State permit, subject to the terms of the RCRA permit (including the tank and container storage capacities specified in the State permit) and as follows:

<u>Hazardous Wastes Which Exhibit the Toxicity Characteristic</u>	<u>EPA Hazardous Waste Number</u>	<u>Description of Unit(s)</u>
Acids and Alkalies	D004 through D011	Tanks and Containers
Organic wastes, halogenated and non- halogenated solvents	D012 through D043	Tanks and Containers
Waste poisons, pesticides	D012 through D017	Tanks and Containers
<u>Additional Wastes</u>		
Petroleum Refinery Sludges	F037 and F038	Tanks and Containers
Chlorinated Toluenes Production Wastes	K141 through K151	Tanks and Containers

ILD000608471  
Page 10 of 10**B. WASTE CHARACTERIZATION**

The Permittees must use the Toxicity Characteristic Leaching Procedure (TCLP) (Appendix II of 40 CFR Part 261), or use knowledge of the waste to determine whether a waste exhibits the characteristic of toxicity, as defined in 40 CFR 261.24. Use of the TCLP does not exempt the Permittees from also using the Extraction Procedure (EP) toxicity test if required by the State permit conditions.

**C. CONDITIONS REGARDING UNITS**

All units described in Condition III.A. above shall be operated in accordance with the State permit conditions pertaining to those units.

**IV. AIR EMISSION STANDARDS****A. PROCESS VENTS**

The Permittees shall comply with all applicable requirements of 40 CFR Part 264, Subpart AA, regarding air emission standards for process vents.

**B. EQUIPMENT LEAKS**

The Permittees shall comply with all applicable requirements of 40 CFR Part 264, Subpart BB, regarding air emission standards for equipment leaks.

**C. RECORDKEEPING**

The Permittees shall comply with all applicable recordkeeping and reporting requirements described in 40 CFR 264.1035, 264.1036, 264.1064, and 264.1065.

**D. NOTIFICATION OF REGULATED ACTIVITY**

The Permittees shall notify the Regional Administrator of any waste management units which become subject to the requirements of 40 CFR Part 264, Subparts AA and BB, within 30 days of startup of the regulated activity.

**E. DUTY TO COMPLY WITH FUTURE REQUIREMENTS**

The Permittees shall comply with all self-implementing provisions of any future air regulations promulgated under the provisions of Section 3004(n) of RCRA, as amended by HSWA.

**V. SCHEDULE OF COMPLIANCE****Air Emission Regulations****Due Date**

Notification of waste management units subject to the requirements of 40 CFR Part 264, Subparts AA and BB.

30 days after startup of the activity.

**RESPONSE TO COMMENTS  
REGARDING THE U.S. EPA PORTION OF  
THE RESOURCE CONSERVATION AND RECOVERY ACT (RCRA)  
HAZARDOUS WASTE MANAGEMENT PERMIT FOR  
CLEAN HARBORS OF CHICAGO, INCORPORATED, (ILD000608471), AND  
THE ILLINOIS INTERNATIONAL PORT DISTRICT**

**INTRODUCTION**

This response is issued pursuant to 40 Code of Federal Regulations (40 CFR) Section 124.17, "Response to Comments," which states that the United States Environmental Protection Agency (U.S. EPA) shall: (1) specify which provisions, if any, of the draft permit have been changed in the final permit decision, and the reasons for the change; (2) describe and respond to all significant comments on the draft permit raised during the public comment period, or during any hearing; (3) include in the administrative record for the final permit decision, any documents cited in the response to comments; and (4) make the response to comments available to the public. If new points are raised or new material is supplied during the public comment period, U.S. EPA may also document its response to those matters by adding new material to the administrative record.

The public comment period regarding the RCRA permit for the Clean Harbors, Inc., facility located in Chicago, Illinois, commenced May 19, 1993, with the publication of a notice in the Southtown Economist, a south suburban regional newspaper. This public notice, which was also published on May 27 and June 3, 1993, in the same newspaper, announced the intent of the Illinois Environmental Protection Agency (IEPA) and the U.S. EPA to issue a RCRA hazardous waste management permit to Clean Harbors of Chicago, Incorporated. The notices requested public comments on the proposed permit and also announced a public hearing on the permit to be held at the Olive Harvey College, on July 15, 1993. The public hearing was held as scheduled, and both written and oral comments were accepted. Further written comments were accepted through August 14, 1993.

Clean Harbors submitted written comments regarding the Federal portion of the draft permit. Those comments are summarized below. The IEPA received oral and written comments from both the public and the Company regarding the State portion of the permit. The comments on the State permit will be addressed by the IEPA in its response to comments.

**COMMENTS AND RESPONSES**

**1. Comment**

Clean Harbors requested to make changes to Condition III.A. of the permit, on page 9 of 10, "...for consistency with 40 CFR 261.24." The Company suggested changing the descriptions of the wastes described under Condition III.A. to "Toxicity Characteristic Metals", "Toxicity Characteristic Organics", and "Toxicity Characteristic Pesticides." In addition, the Company asked to change EPA hazardous waste code "D0011" to "D011."

### Response

The revised language, as proposed by the Company, is not consistent with the terms defined under 40 CFR 261.24. The list of hazardous waste codes identified in Condition III.A. only addresses wastes that exhibit the toxicity characteristic. Therefore, the title of the first column under Condition III.A. has been changed to "Hazardous Wastes Which Exhibit the Toxicity Characteristic" to clarify that in that particular column the U.S. EPA is only addressing those wastes exhibiting the toxicity characteristic, for which the State is not yet authorized to administer in lieu of the Federal requirements. (Please note that the State permit includes the entire list of hazardous waste codes that the Permittee is allowed to manage at the Clean Harbors facility.)

The typographical error in the waste code number "D0011" was corrected to read "D011."

### 2. Comment

Clean Harbors requests that the following codes, which were inadvertently omitted from previous submittals, be added to the list of codes which are approved for storage and transfer at the facility: K141, K142, K143, K144, K145, K146, K147, K148, K149, K150, K151.

### Response

In response to Clean Harbors' request, EPA hazardous waste codes K141 through K151 were added to Condition III.A. of the permit under a new column titled "Additional Wastes." The addition of these wastes, identified as "chlorinated toluenes production wastes" by the U.S. EPA, does not affect the treatment capacity proposed in the permit application or any operating condition specified in the permit.

It should be noted that the U.S. EPA also added to the column titled "Additional Wastes" two types of petroleum sludges identified under EPA hazardous waste numbers F037 and F038. These wastes had been inadvertently omitted from the draft permit by the U.S. EPA at the time the permit was written, although they had been addressed in the Clean Harbors' Part B permit application.

### DETERMINATIONS

As part of the final permit decision, some provisions of the draft permit were modified, expanded and/or clarified in response to Clean Harbors' request. The changes were described in detail in the U.S. EPA's responses to Clean Harbors' comments. In addition, minor editing changes were made to the Index to the permit and to the title of Condition III., which do not change the content or substance of the draft permit.

Based on a full review of all relevant data provided to the U.S. EPA, the U.S. EPA has determined that the final permit contains such terms and conditions necessary to protect human health and the environment.